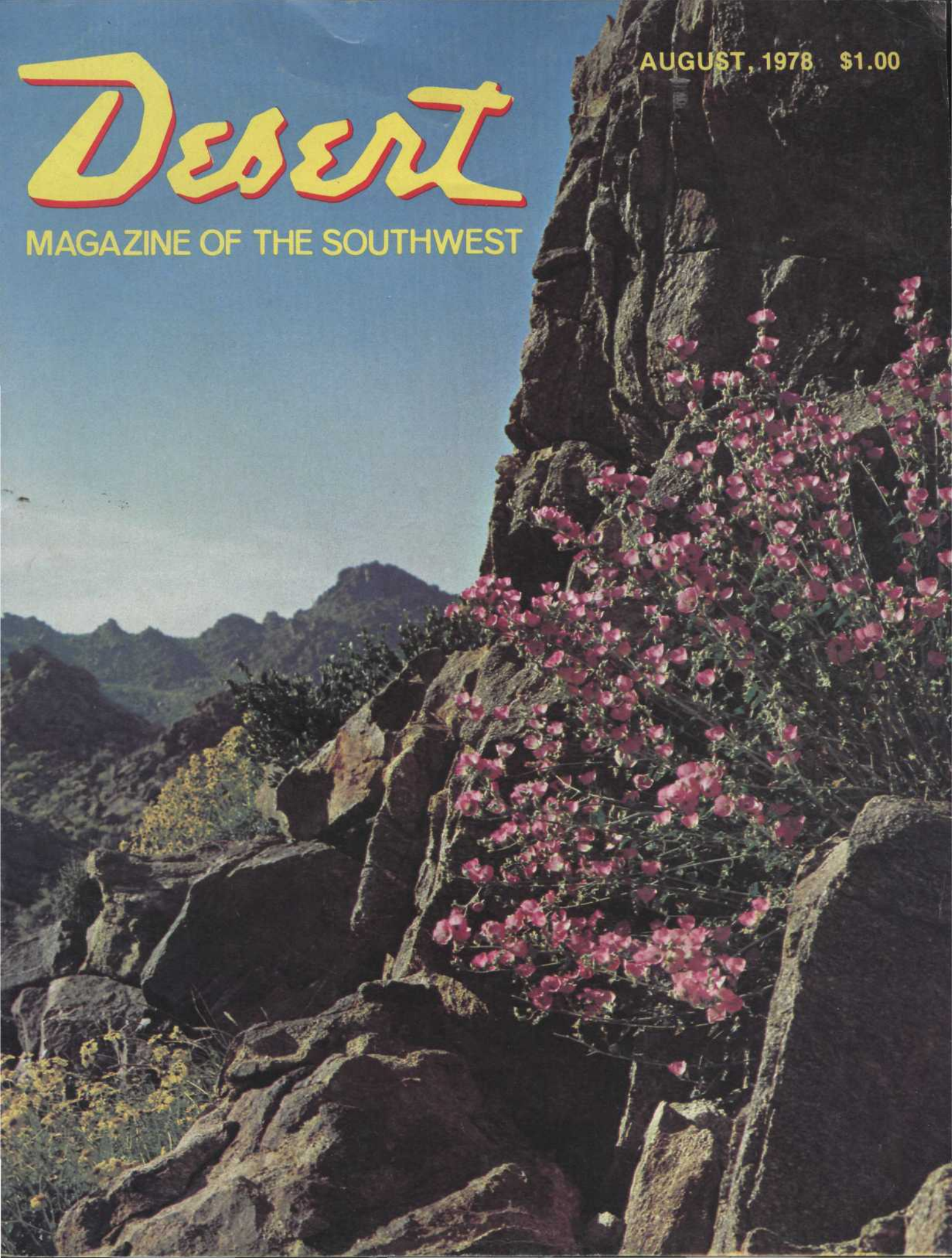


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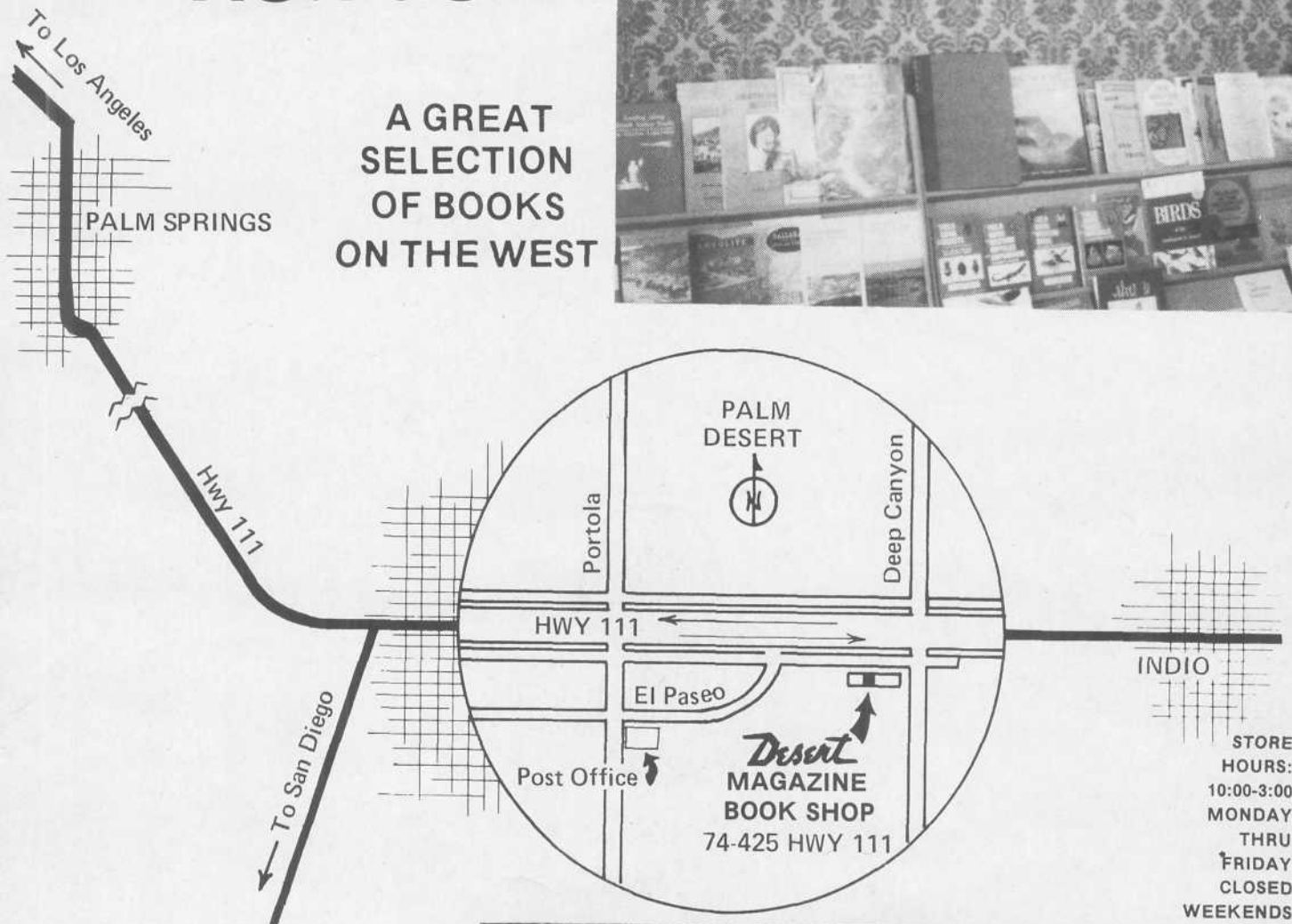
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Volume 41, Number 8

AUGUST 1978

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THE COVER:
California's towering Santa Rosa Mountains hold wildflower treasures such as this rose mallow. Photo by George Service of Palm Desert, Calif. See article on page 24.

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EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: 74-425 Highway 111, P. O. Box 1318, Palm Desert, California 92260. Telephone Area Code 714 346-8144. SUBSCRIPTION RATES: United States and possessions; 1 year, \$7.00; 2 years, \$13.00; 3 years, \$19.00. All other countries add \$2.00 U. S. currency for each year. See Subscription Order Form in this issue. Allow five weeks for change of address and send both new and

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A Peek in the Publisher's Poke

ONE OF the many intriguing facets of the desert is its many tales of lost ledges, mines and treasures. The Lost Gunsight has been a favorite of many through the years dating back to the Fortyniners. In this issue, historian Harold O. Weight sheds what well might be the last light on this legendary ledge.

For those who love the cool call of the higher elevations during the hot summers on the low desert, Bill Jennings tells about one of his favorite mountain areas, Pinyon Flat. It has a lot to offer, but a word of caution to all who enter the woodlands: Keep ever alert of potential fire hazards. The dry grasses could spell disaster for large areas of precious watershed.

While up in the pines, you might just come across a Pinyon Jay, so K. L. Boynton brings us the latest word on this jolly little bird.

Wayne Armstrong takes us from pinyon to parasites in his concluding article on these fascinating free-loaders; Arizona's Painted Desert gets a nice treatment from Charles Konopa, and B. Lynne Zika reveals the enterprising new life in an old ghost—Madrid, New Mexico. Colorado also gets into the picture this month with a visit to the interesting cliff dwelling at Mesa Verde by Ray Pomplun, and Dick Bloomquist continues with his California Oases series with a trip to Five Palms.

We've had many queries on how to obtain geological information, so be sure to catch Roger Mitchell's informative article on Page 12. And last, but not least, "What's Cooking on the Desert?" — Frijoles!—as only Stella Hughes can cook 'em!

Stella Hughes

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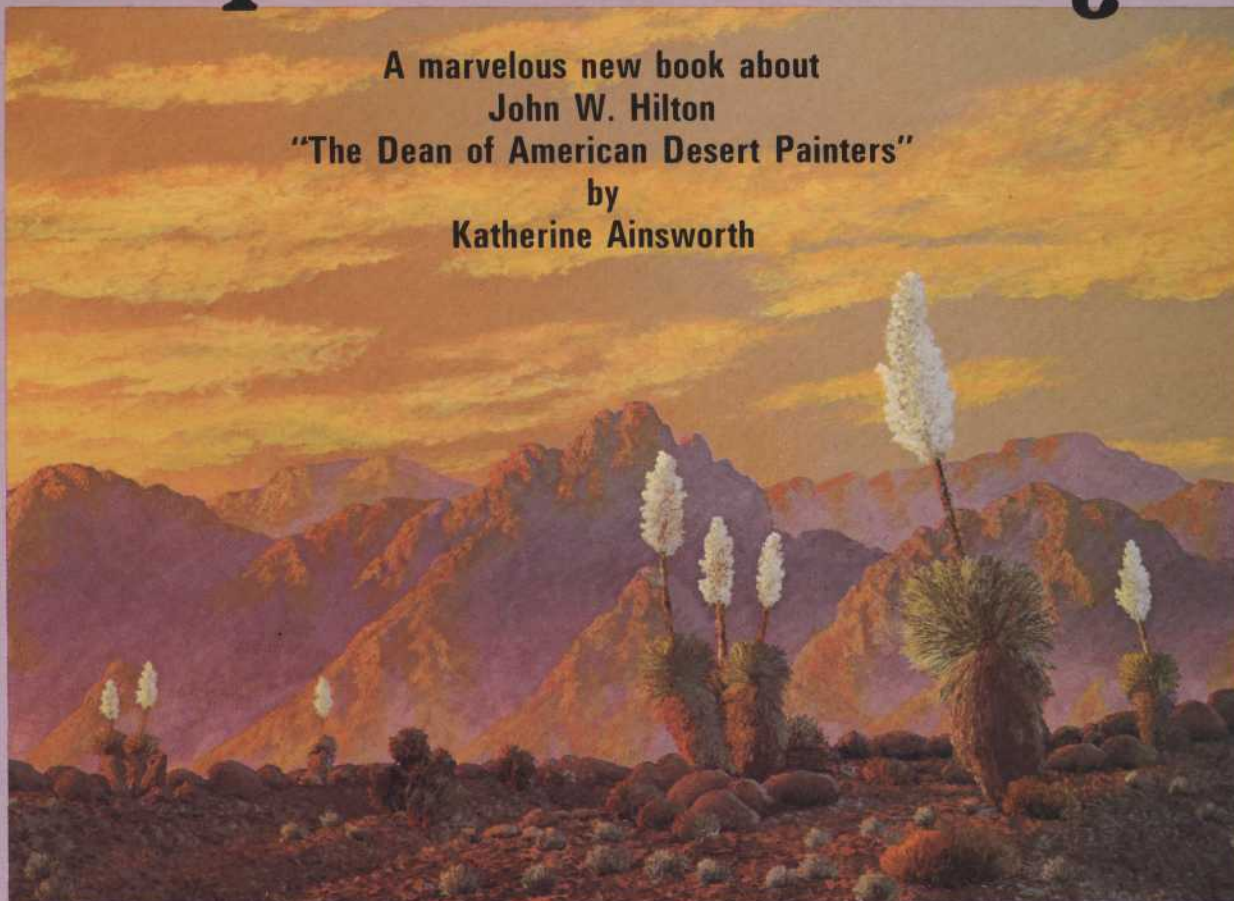
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The Man Who Captured Sunshine

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The Man Who Captured Sunshine is a biography of a remarkable, modern day, Renaissance Man — John W. Hilton. Though John Hilton is best known as the "Dean of American Desert Painters," he is also a distinguished botanist, gemologist, and zoologist. Hilton also is a noted writer and linguist, a guitarist and singer.

The Man Who Captured Sunshine is inspirational . . . a book which inspires one to overcome adversity, to achieve excellence, to strive for a genuine joy of living. The reader will cry, but more often will find himself/herself enjoying the pleasure of hearty laughter, of grand adventure. The significance of this book, above all else, lies in an impelling force which inspires the reader to live a fuller, more meaningful, more joyous life . . . to be a doer, a creator, a giver.

The author, Katherine Ainsworth, makes no apology for the "lack of objectivity" in writing this book . . . she has been a friend and admirer of John Hilton for over thirty years. Katie's late husband, Ed Ainsworth, was John Hilton's best friend for almost as many years. This "labor of love" has resulted in a magnificent book about a magnificent man.

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SAND IN MY SHOE

By Helen Bagley

Little first hand literature is available on Twentynine Palms, California, but a

unique and enjoyable book, "Sand in My Shoe," has just been published.

Twentynine Palms was known to white men at least as early as the 1840s, and to Indians of different tribes long before that. Nothing was written about it until the 1850s, so far as known. From the 1860s it was traveled and explored for gold and a railroad route. Thereafter, activities of miners and cattlemen made it familiar to thousands of Southlanders.

But the remote oasis itself, until after World War I, was called home by very few. It is the men and women who went there and lived as pioneers in the '20s and '30s that "Sand in My Shoe" brings vividly to life.

The woman who tells this multi-colored story, like so many others who took that far trip into an "unknown" desert, left city comfort hoping her husband Frank would find health. The young couple had two small boys and a son a few months old.

Frank, using his car's speedometer, squared off 160 acres for their homestead. How the Bagleys lived in a garage—the first structure Frank built—gradu-

ated into a tenthouse bedroom, and eventually developed the Plaza center of town, is a portrait of what many—until recent days—have thought of as the American Way. But probably few today have met the kind of basic challenges that awaited these pioneers.

Because of its remoteness, this community's evolution, as portrayed in "Sand," presents a microcosm of life from a period far earlier than the '20s. It is like using a telescopic lens to bring into close focus a habitat and its human characters—a view we normally see only from a distance and through an historian's haze. What a study this period, with its virtually self-contained community, could have provided some socio-economics researcher!

The desert life of which Helen Bagley writes was compacted between two world wars. These impacts alone shaped the lives of these people to a considerable degree. And it was the physical effects on veterans of World War I that brought them to the desert for healing. Most of them, coming to the Oasis, found an environment foreign to their own experience and to that of their generation. It was like a fictional turning back of the clock—they started all over again the kind of pioneering through which their ancestors had evolved.

Helen and Frank, as they operated their pioneer homestead store in that original garage (after they pushed the double bed outside each day), saw the gathering homesteaders, and miners in from the hills, from a vantage few others had. Frank soon was postmaster and was helping newcomers locate homesteads. Helen became librarian for the tiny county branch, the shelf of books at first wedged between hard-toed shoes, lanterns, ammunition and overalls. She worked many years on the school board, to bring the district out of its infancy. In countless ways the Bagley store became the heart of the community, even grubstaker and banker.

The author knew the scores of people in "Sand." Not all were stalwart and upright. But they are shown with an em-

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pathy that comes only from one who also knew their hopes and the struggles they had had along the way.

Included are the two cattlemen who disputed a right of way until one died in a blaze of gunfire . . . the Heidelberg U graduate who fled his cultural background because "he once loved a gypsy" . . . the homesteader who proved up on his claim, but lost his mind . . . the couple, working their mine alone, who squeezed gold amalgam through an old sock before sending it to the mint . . . the constable who carried a gun only on sheriff's orders, and who took a culprit home to his wife's custody "because most of them need a friend, not more trouble," and the miner, too blind to tell a snake from his walking stick, but who heard music made by the wind in his mountain.

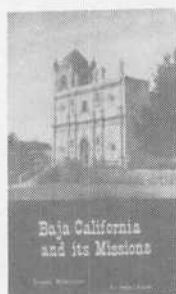
Balancing adversities and deprivations against the gains in health and satisfactions, Helen Bagley in summary saw the hardships only as "sand in my shoe."

The book is a minor classic, a distillation of a life style that to a large extent had vanished decades before the start of Twentynine Palms as a community.

Introduction by Harold and Lucile Weight. Hardbound, 286 pages, 35 photos, \$8.95.

BAJA CALIFORNIA AND ITS MISSIONS

By Tomas Robertson



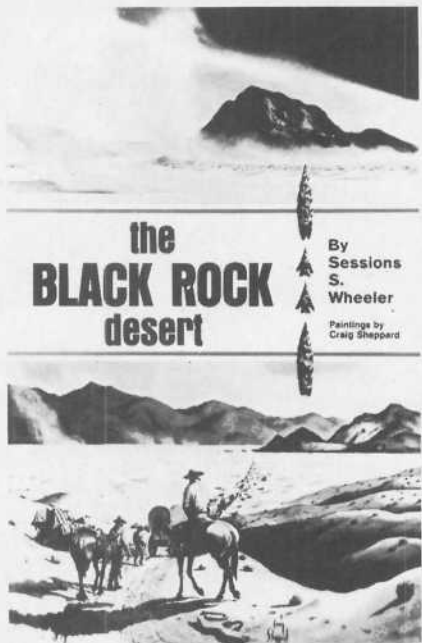
This work provides a history of the conquest of Baja California, beginning with an unsuccessful attempt by Hernan Cortes in 1534, followed by another failure by Padre Kino in 1683. Finally Padre Salvatierra of the Jesuit Order arrived in San Bruno, then moved to Loreto, where the Mother Mission of the Californias was founded in 1697.

This book traces the activities of the Jesuits and later those of the Franciscans and the Dominicans. The story of each mission is told, together with notes on the present condition of each and how to reach every one of these wilderness churches.

This book will be a delight to all of those who are interested in the peninsula of Baja California and the saga of the mission fathers. It will be enjoyed by arm-chair explorers but will be inval-

able to those who may wish to visit these almost forgotten churches of the lonesome peninsula of Baja California.

Paperback, 96 pages, illustrated with photos and maps, \$3.50.



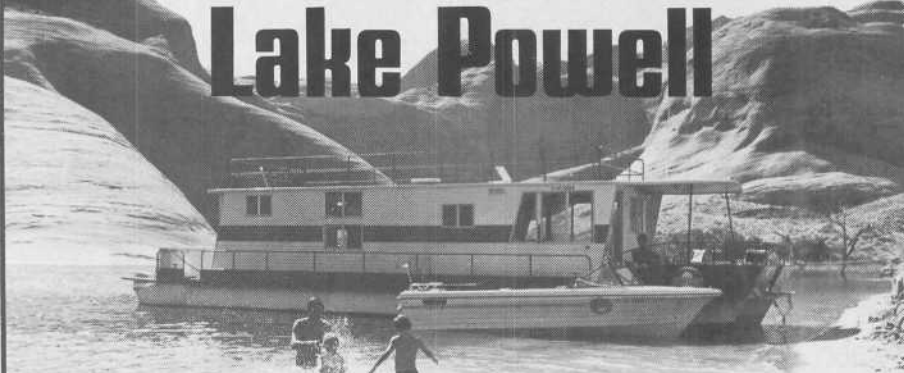
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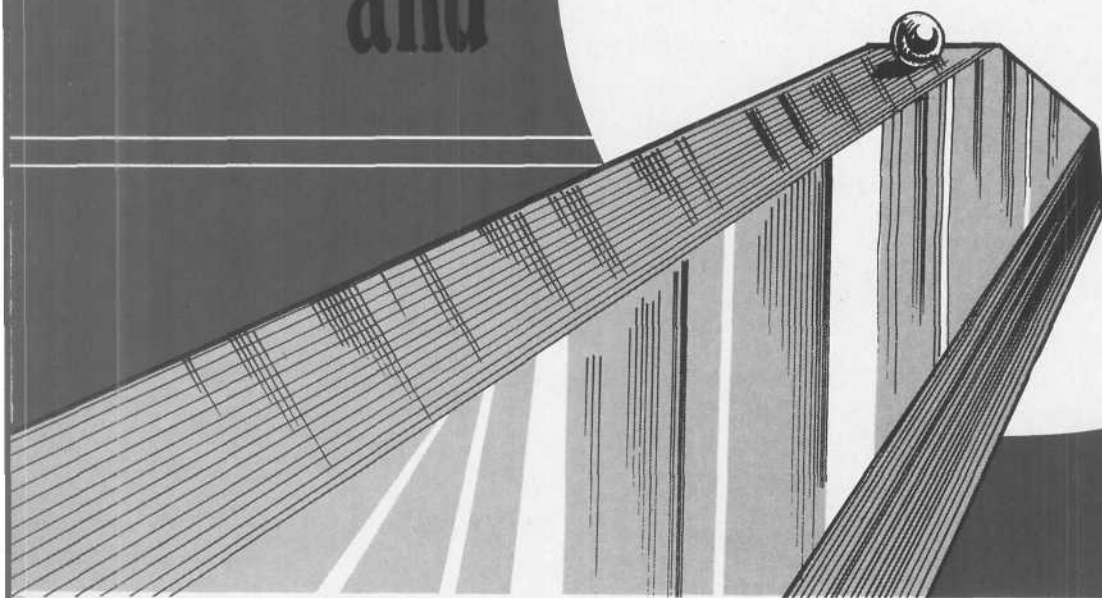
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Emigrant Springs and

THE LOST GUNSIGHT



by HAROLD O. WEIGHT

IN THE early 1950s, when we were frequent visitors in the Rand Mining District, James B. Nosser was Justice of the Peace for Kern County's 10th Judicial (Randsburg) Township. But Jim had been a mining man much longer than a jurist, and his little Justice Court in Johannesburg was a favorite stopping place. It showed clearly where Jim's heart lay. On the shelf behind his desk, a "Mining Engineers' Handbook" shouldered the "California Penal Code." Writ of process forms shared space with mining location blanks. Rolled mining maps were piled on top of legal file cabinets.

Mining won out on Jim's stationery, too. It identified him as JP, but also as President of the Kern County Chapter of the Western Mining Council, Chairman of the Kern County Chamber of Commerce Mining Committee, and as a mining consultant and investigator. In his career Jim has been an assayer at Jo-

burg, a mine owner, miner, prospector, grubstaker. Mining ran in the family. His uncle, J. J. Nosser, was co-discoverer with Hamp Williams of the great California Rand silver mine, at nearby Red Mountain, which produced more than \$10,000,000.

In Jim's office, conversation was certain to work around to mines, miners, and mining history. Nosser was widely knowledgeable about all three. He also was what would now be called a "resource person" on lost mines. He was not, however, the wide-eyed, gullible, fact-shunning visionary that lost mine enthusiasts are assumed to be. Jim knew that rich outcrops really were discovered and for various reasons never again relocated. He had assayed the ore from such finds, and had attempted to find some of them himself.

Naturally in Joburg—early gateway to Death Valley—the Lost Gunsight would

come under discussion. While it is Hydra-headed now, in the beginning the story was simple enough. One of the Fortyniners, while escaping across the Panamint Mountains from Death Valley, picked up a piece of native silver which he later supposedly had made into a front sight for his rifle.

Several of the Fortyniners authenticated this discovery of silver in the Panamints. John B. Colton, a teen-age Jayhawker of '49, gave details in a letter to the San Jose *Patriot* in 1895. On Christmas Day 1849, Colton wrote, the Jayhawkers were camped on Salt Creek in Death Valley. There was a snowbank in sight of the mountains to the west—the Panamints—seemingly about 10 miles distant. The Jayhawkers, preparing to climb to the snow, were making pack-saddles for their oxen out of the sideboards and spokes of their wagons.

While they worked they were briefly

rejoined by a party of emigrants called the "Georgians," who had separated from their group some three weeks back on the trail. The Georgians, heading for the same snowbank, soon left for a direct assault on the Panamints.

"We finished our packsaddles at sunset," Colton wrote, "and started on the trail for the snowbank, expecting to reach it by morning. This time the mirage deceived us, and in our weak condition we did not reach the snow until the second morning about three o'clock . . . The Georgia boys built signal fires to guide us to camp and had plenty of melted snow for us to drink.

"The Georgia boys were old silver miners. They told us upon our arrival in camp that there was immense wealth of silver in sight of where we camped. One of the boys showed me a chunk of black rock that he held in his hands, and told me that it was half silver, and that nearly all the rock we were walking over was very rich in silver, and that if we only had provisions and water, and knew where, there was all the wealth in sight that we could ask."

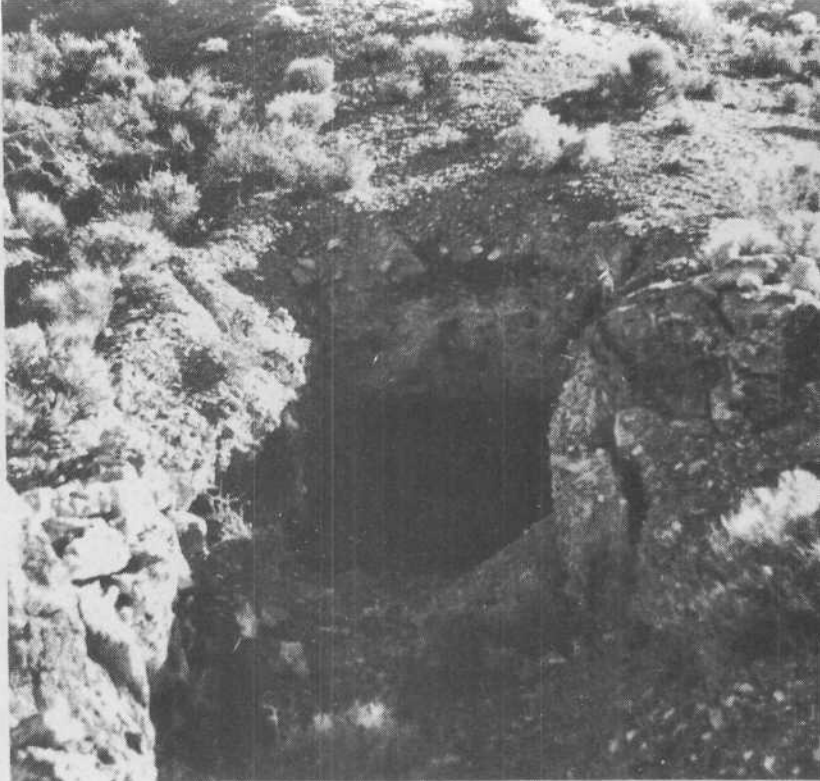
Another young Jayhawker, William B. Rood, who returned to Death Valley in 1869 to search for the Lost Gunsight—after he had mined silver in southern Arizona—also testified to the Georgians' ore. "I held it in my hands," he said. "It was silver."

Most of us who believe in the Lost Gunsight have theories about where it is, or was. Jim Nossner was more positive than that. He knew where it was, because he had rediscovered it.

"Back in the early 1920s," he said, "I was associated with Tom Logan, well known prospector and miner, and Ben DeWitt. DeWitt heard of a discovery in the Panamint Mountains near Emigrant Springs, and requested food and equipment to go over and investigate it. Logan gathered more equipment, found a ride out to Emigrant Springs and the two men joined. It was agreed that if the ore showed good values, I was to come on out.

"A few days later the first samples came in with a returning prospector. A hurried assay showed that they ran from 150 to as much as 300 ounces in silver to the ton. I sent the assay reports back. And the values were so exceptional, the character of the rock so very interesting, I laid my other work aside. I made what

This tunnel, driven about 30 feet, but not showing evidence of much ledge material, in area between Upper and Lower Emigrant Spring fits description given by Judge Nossner for the one his partners started.



was in those days a rather hazardous trip in a 1915 Ford without any top, the typical Model T that became so famous.

"I crossed over the Slate Range and Panamint Valley, climbed the Panamint Range, descended the other side toward Death Valley, and approached the spot now pretty well known as Upper Emigrant Springs. All at once, without warning, an old fellow stepped out from behind some rocks and brush and covered me with a .30-.30. I threw up my hands and just slid to a stop.

"The character who stopped me had a huge red beard and hair down to his

shoulders. He was very poorly dressed in overalls and rough shirt, with a belt with two revolvers strapped around his waist. And the .30-.30 just remained trained on me. When I got my breath I asked if this was the way they greeted visitors.

"Well," he says, "there's a big strike down the canyon, and we want to know who's coming in here." I told him my name, and he lowered the .30-.30. "Well, you're all right. Tom and Ben are waiting for you."

Red Beard, whom Nossner found out was an old Death Valley prospector known as "Crazy Bob" Smith, got in to

This 1876 map of the Surveys West of the 100th Meridian shows four silver mines operating in the area where the Lost Gunsight silver was supposed to have been found by the Death Valley Fortyniners.





Left: Looking down across little valley with silver prospects, between the two Emigrant Springs. Built up bit of trail indicated by circle. Smooth place foreground center is dump from tunnel, white patch right foreground, silver prospect. Emigrant Canyon runs through center of picture, Tucki Mountain in background. Right: Stretch of ancient built up trail in canyon between Up-



the car and guided Jim to a place in the narrows near Lower Emigrant Spring. They left the car and climbed the steep hillside to where Logan and DeWitt had dug a tunnel in 30 to 40 feet. They explained to Nosser that the rich ore he had assayed had been found right beside the tunnel face, scattered up and down the steep slope. They had several powder boxes of the ore—all picked up as "float." They believed there was a contact in the hill that had been covered over with surface erosion until it was hidden, and the best way to find it was with a cross-cut tunnel.

"So they didn't wait for my advice," Jim said. "Having sufficient powder and

material, they just started their tunnel. They were great powerful men—they weighed a total of 440 pounds—so they had just about walked through that hill in the short time since they had received my assays. We went over where they had found the float, and they showed me their tracks, where they had carefully worked the surface in picking it up. Pretty soon, hunting, we picked up some more of the ore.

"Finally I remarked that the ore had been put there, because of the fractured condition of the rock, the sharp edges it showed. It hadn't washed any distance, or weathered there. I explained to them why I thought so, and showed them

pieces I was positive had been blasted. Ben walked over to the powder boxes and soon returned with several pieces that showed definite powder burns. Little as we knew about it, we agreed that the burns were black powder, used in early days for mining and muzzle-loading rifles."

The men abandoned the tunnel, and started searching the steep hill side, working back and forth across the slope. Logan discovered some rock work done in a little turn in the canyon. They commenced to see the outline of a trail that had once existed across the hillside. They started following it up.

"Pretty soon I noticed a little handle



Left: Lower Emigrant Spring, photographed about 1948, before all its water was appropriated for use in Death Valley. Right: Looking up Emigrant Canyon. Upper Emigrant Springs out of sight, in cove right center. Mine dump, right foreground, marks one of early silver mines in area. Far right: James B. Nosser believed he had rediscovered the famous Lost Gunsight mine. Photographed in his Justice of the Peace office in Johannesburg, 1951.





per and Lower Emigrant Springs was wide for pack trains but too narrow for wagons or automobiles. It ends abruptly just beyond point shown at right, high above Emigrant Canyon. Tucki Mountain in background. Right: Looking across early silver diggings at Tucki Mountain. Emigrant Canyon runs just beyond light ridge, center.



sticking out of the ground," said Jim. "I recognized it as the spoke of an old wagon. I started digging around it carefully and finally got it uncovered. It had been tied onto part of the rim of a light wagon tire with what I later identified as buckskin thongs. The rim had been twisted into the shape of a pick, and the ends sharpened. The wagon spoke had been used as a handle.

"I knew then that whatever the source of our ore, it was extremely old—dating back possibly to the earlier emigrants. Continuing up the trail I saw some little diggings way up on the top of the hill, and went directly to them. I found a kind of half-underground excavation—rem-

nants of what a miner might term a stope—from which it looked as if 50 or 60 tons of rock had been removed.

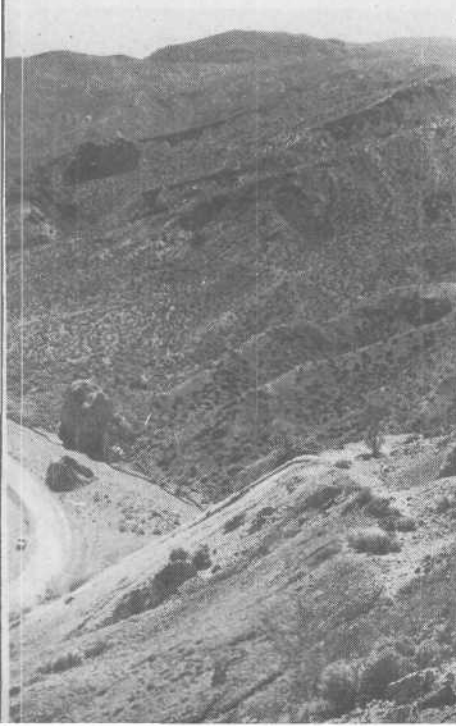
"I went in, and looking around found there was a little bit of the ore remaining, sticking to the walls. Just scales—but I recognized those scales as enormously rich silver ore of the same character—horn silver—that we had found down below. I picked off quite a number of scales large enough to identify. There was enough to secure an assay. The assay, which I made later, ran better than 4000 ounces of silver to the ton. It clicked in my mind then that this possibly was the old Lost Gunsight mine. That it was a rich pocket, as so many Death Valley

mineral deposits are, and that the discoverers had returned—or someone else had found it—and worked it out. And said nothing about it."

Nosser traced the old trail all the way down. Its incline from stope to road was very steep—about 40 degrees. The earth was very soft. They sank right into it and went over their shoes. Part way down, above the canyon at a point of rocks, the trail made a hairpin turn. It was below this point that their rich rock had been found.

"The ore evidently had been dragged down on a sled," Jim said, "by men, not

Continued on Page 39



Geological Information and Where to Find It



by ROGER MITCHELL

SOONER OR LATER most rock-hounds, ghost town buffs, and general desert explorers find they have questions about the rocks and minerals they have found, or mining areas and curious rock formations they have visited. Somehow the information to

answer their questions does not seem to be available back home in the county library. Where do you turn now?

Practically every state in the Union has an agency dealing with its mines, geology, and mineral sources. Sometimes these agencies have their offices only in the state capital; others, like California, have branch offices in other major urban centers. Most of these agencies publish reports and maps which are often useful, and all will answer written queries as best as possible.

At the federal level of government, there are two additional agencies concerned with mines and geology. If you can't get the information you want from the state people, try the feds.

Listed below is an annotated source for information pertaining to the mines and geology of the southwest:

STATE AGENCIES

ARIZONA: Write to: Arizona Bureau of Mines, University of Arizona, Tucson, Arizona 85721. Upon request they will send you a five-page brochure of available publications. This list includes some two dozen bulletins and circulars as well as 11 county geologic maps and a dozen other miscellaneous geologic maps.

CALIFORNIA: Write to: California Division of Mines & Geology, P.O. Box 2980, Sacramento, California 95812. They also have walk-in offices in Los Angeles, Sacramento and San Francisco, where library facilities and over-the-counter sales are available. This agency publishes a long list of geologic publications, and some very interesting ones cover California's desert areas. Their monthly publication, *California Geology*, is a bargain at 35 cents per copy or \$3.00 per year by subscription. This 24-page bulletin contains geologic articles written so the layman can understand them and it reviews new geologic publications from a wide variety of sources.

COLORADO: Write to: Colorado Geological Survey, State Centennial Building, Room 715, 1313 Sherman Street, Denver, Colorado 80203. Upon request they will send you a 20-page booklet giving a little history of the Survey and a list of all their publications.

NEVADA: Write to: Nevada Bureau of Mines & Geology, Mackay School of Mines, University of Nevada, Reno, Nevada 89507. Upon request they will send you a 12-page booklet of available publications. They have a long list of bulletins, reports, and maps. Of particular interest is their geologic guidebooks and bulletins covering the geology and mineral deposits of various counties.

NEW MEXICO: Write to: New Mexico Bureau of Mines & Mineral Resources, Socorro, New Mexico 87801. Upon re-

quest they will send you a 35-page booklet of available publications. While many of their bulletins and circulars are very technical, they do have a dozen books entitled *Scenic Trips To Geologic Past* which are inexpensive and useful to the non-geologist reader and explorer of the state.

UTAH: Write to: Utah Geological & Mineral Survey, 606 Black Hawk Way, Salt Lake City, Utah 84108. Upon request they will send you a list of some 200 publications dealing with a wide variety of geologic subjects. Most are inexpensive, a few are free! Of particular interest to *Desert* readers might be their books on Utah's historic mining districts, or their catalogue of mineral localities. This agency also publishes *Utah Geology*, a biannual publication (spring and fall) covering a wide variety of Utah's geologic topics. The price is \$3.00 for a single issue, or \$6.00 per year.

FEDERAL AGENCIES

The best source of general information is the U.S. Geological Survey. In the western states they have field offices in Denver, Los Angeles, San Francisco and Salt Lake City, where their publications and maps can be purchased over the counter. Other offices in Anchorage, Fairbanks, Menlo Park, and Spokane sell only limited materials. All correspondence and publication orders can be directed to: Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia 22202. They are also the folks who publish those colorful topographic maps at the inflated price of \$1.25 each for the 7 1/2" or 15 minute series, \$2.00 for the 1:250,000 series. Topographic map indexes for each state are free upon request. All USGS topo map orders should be addressed to: Branch of Distribution, U.S. Geological Survey, Box 25286 Federal Center, Denver, Colorado 80225. The number of USGS publications in print at any given moment runs into the thousands. Unfortunately, there is no up-to-date master index available to the public. For a free monthly list of new USGS publications, write to USGS at 329 National Center, Reston, Virginia 22022 and ask to be put on their mailing list.

The U.S. Bureau of Mines seems to

devote a lot of its energy on coal mine safety in the East, but they do publish Information Circulars, Report of Investigations, and other documents pertaining to mines, mining districts, and mineral resources of the West. Their address is: U.S. Bureau of Mines, 2401 "E" Street, Washington, D.C. 20241.

There are also a number of privately sponsored organizations like the Geological Society of America, and the New Mexico Geological Society which have excellent publishing programs. Another source of help is the Geology Department at your local college or university. Most of the professors feel a certain responsibility to the public at large and not just their students. They will usually be a willing and useful source of information who can point you in the right direction, if not actually answer your questions.

So there you are, my friend, do not despair. Somewhere, something has probably been written about that old mine, that curious rock formation, or that strange mineral you found. The answer may take a little research, but with perseverance, an answer can usually be found. □

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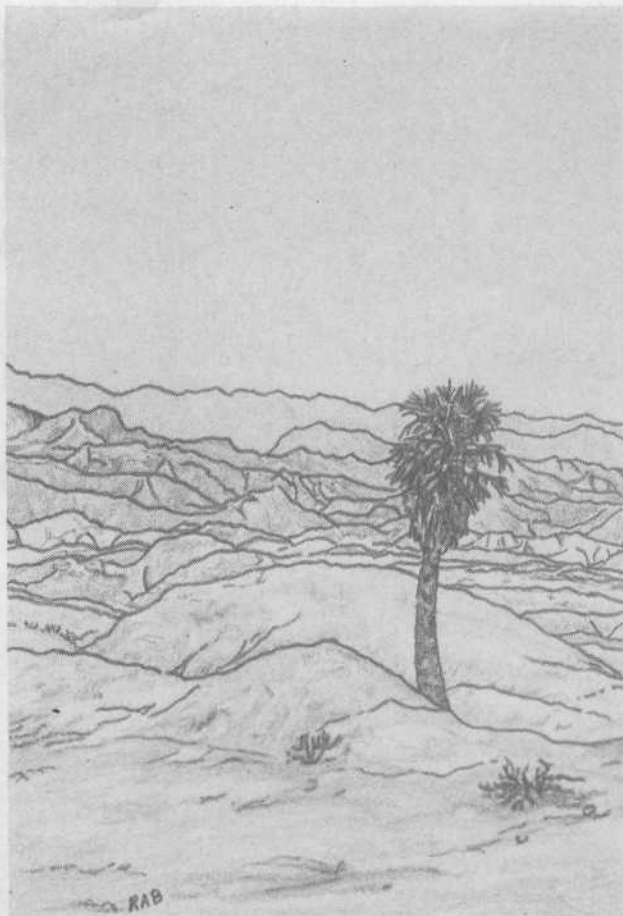
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Five Palms

by DICK BLOOMQUIST



*One of the two surviving trees
at Five Palms in the Borrego Badlands.
Pencil sketch by author.*

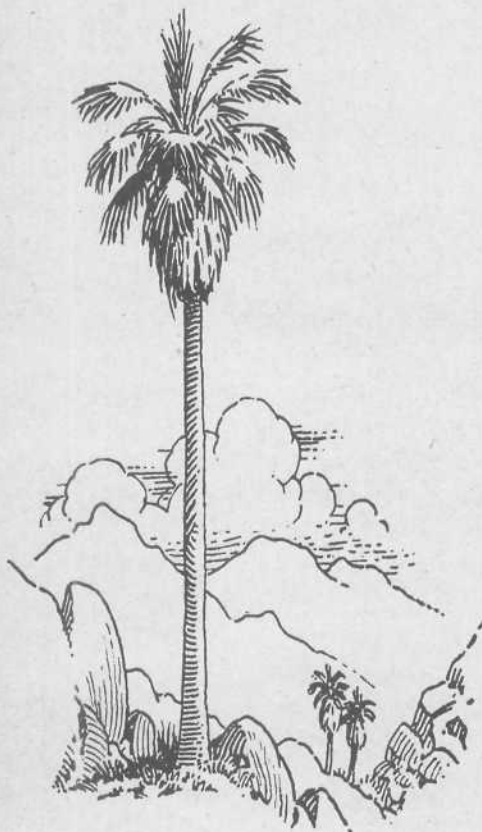
ONE-TENTH OF a mile downstream from the junction of Arroyo Salado and the Seventeen Palms tributary, another set of wheel tracks leaves the main wash on the right side; a state park post marks the turn. The roadway curves through bare clay hills whose naturalness has unfortunately been scarred by the tracks of motorcycles and trail bikes. We have already paused twice within the Anza-Borrego Desert State Park (at Travertine Palms and Seventeen Palms), and since most of our remaining oases also lie within its boundaries, perhaps a few words are in order at this time regarding park rules and regulations.

Motor vehicles must keep to the roads and established routes of travel (many washes qualify as legal "routes of travel"); camping is permitted almost everywhere within the preserve's more than half-million acres, but ground fires and wood gathering are prohibited, as are loaded firearms; fires may, however, be built in containers off the ground; all features, natural and man-made, are protected by law, and digging for Indian

artifacts or removing them is illegal. A complete set of rules may be obtained at park headquarters or Borrego Palm Canyon Campground a few miles west of Borrego Springs.

Four-tenths of a mile beyond Arroyo Salado, we draw even with Five Palms. A spur road forks to the right here, ending almost immediately in a gulch just below the oasis. (The main route continues onto into Tule Wash and eventually passes the remarkable rounded concretions of the Pumpkin Patch east of the park boundary.)

The name "Five Palms" is no longer accurate, but unlike Twentynine Palms, Four Palm Spring, and other groves which have increased in size since they were named, the original quintet here has dwindled to a deuce. The first *Washingtonia*, a robust, full-skirted tree about 22 feet tall, stands along a steep, waterless gully on one of the mud hills. It bore a bountiful crop of fruit on myriad stalks when I passed by in late autumn, and a bevy of house finches was chattering in the leafy crown. Someone had left



a jug half-filled with water beside the tree, extending a tradition already well established at neighboring Seventeen Palms. Three fallen trunks lie nearby; they were dead but still erect when I first saw the oasis in 1962.

The second palm, a veteran some 28 feet tall, grows 65 or 70 paces to the southwest on the other side of a low ridge. Its abbreviated fronds reveal a weathered trunk nearly three feet in diameter. This tree is the older and less vigorous of the two, and numerous dead leaves strew the ground around it. Storm

Mileage Log

- 0.0 Christmas Circle in Borrego Springs. Drive east toward Salton Sea on San Diego County Road S22.
- 6.8 Pegleg Smith monument to left of road.
- 11.8 Enter Anza-Borrego Desert State Park.
- 15.8 Junction. Turn right off S22 onto Truckhaven Trail (dirt road). (For travelers coming from the east, this junction is 11½ miles west of Salton City.)
- 16.0 Arroyo Salado Primitive Camp. **Four-wheel-drive advisable beyond campground.**
- 18.0 Junction. Truckhaven Trail turns left. Continue straight ahead (right) down Arroyo Salado.
- 19.5 Junction. Continue straight ahead (left) down Arroyo Salado. (Right fork leads to Seventeen Palms.)
- 19.6 Junction. Turn right, leaving Arroyo Salado.
- 20.0 Junction. Turn right.
- 20.0+ Roadway ends just below Five Palms (elevation 400 feet above sea level).

waters coursing down the normally dry bordering gully have exposed its roots on the uphill side, even tunneling through them in two places.

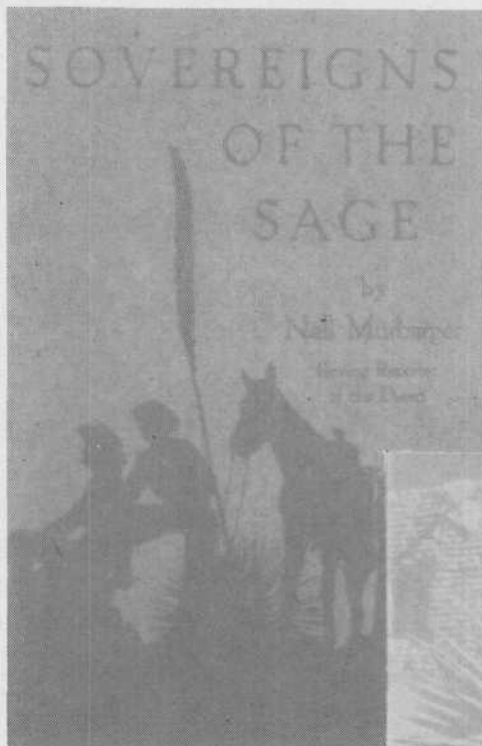
In a moist draw several hundred feet to the north, someone had planted a date palm. Visible to the right of the roadway about halfway between Arroyo Salado and Five Palms, it stood seven feet tall in February, 1977.

The sunstruck, alkali-encrusted clay hills support only a suggestion of vegetation at the oasis—a bit of mesquite, a jot of grass, a dash of desert holly. A fine view of distant mountain ranges and a portion of the Salton Sea can be enjoyed from the hills' rounded summits, however. Closer at hand, a solitary Washingtonia pokes its head above the Badlands a fraction of a mile southwest of Five Palms. This is Una Palma, the next way station along our oasis trail. ☐

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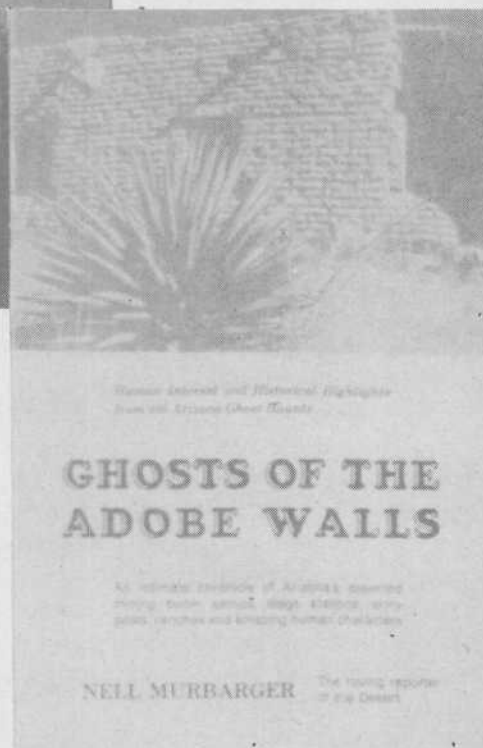
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ARIZONA'S PAINTED DESERT

by CHARLES KONOPA

WHEN YOUR wheels are running quick and smooth on the interstate highway, with its hypnotic reduction of time and distance into mere ciphers, it would seem unthinkable that a wilderness of nature could actually exist within earshot of your car's exhaust. But in northeastern Arizona such a wilderness actually does exist. There, barely out of sight of the hurrying cars on Interstate 40/U.S. Highway 66, is the Painted Desert. The desert is colored like Noah's rainbow. It is also roadless, rugged and unpeopled.

At a point 70 miles west of the Indian town of Gallup, New Mexico, and 27 miles east of the Mormon town of Holbrook, Arizona, Interstate 40/U.S. Highway 66 rolls through what many a motorist puts down as a xeric steppe seemingly devoid of life. The prospect at first glimpse is as forlorn as Mongolia. Yet it is precisely at this point that the motorist who will shake off the hypnotic spell of the interstate conveyor belt and detour a mile through the brush will come upon the glory of the Painted Desert. The contrast is as dramatic as a clap of thunder.

You turn off the interstate at a white-on-green signboard pointing to "Petrified Forest National Park." Half a mile along a narrow paved road, a park headquarters appears on the right. A flag is fraying in the gusts which are combing the parking lot of its accumulation of cigarette butts and gum wrappers. There is a sprawl of low boxy buildings enclosed by long high brick walls. Zigzagging up the walls are fissures made by earthquakes and the uneasy footing of a soil made unstable by its contents of bentonite. The cracks in the walls—new ones develop while old ones widen alarmingly—are runways for mice and rabbits and the rattlers that dine on the mice and the rabbits.

In the visitor center a pretty blonde receptionist hands you a free park map and explains that a fee for visiting the park will be collected at the entrance station outside. The fee is one dollar a carload. For another dollar she sells us *This is Painted Desert*, a booklet of illustrations with captions in the haiku manner. Back on the park road, then a pause at the entrance station, where the fee is taken by a ranger. Then you drive onward a minute or two to where the endless gray flats terminate abruptly on top of a cliff.

You park at an overlook and walk across glassy shards of gypsum to the rim. Sightseers from Omaha are snapping pictures, and a reluctant small boy is being scolded back to safety by his mother. The cliff swoops down, losing a couple of hundred feet in altitude. At its base it merges with a landscape that is exotic in form and color. This is the southern edge of the Painted Desert.

The desert runs north and west into the Navajo and Hopi Reservations. It is a textbook example in geological chaos. Rows of coral-tinted hills, seamed by fissures and pocked with holes, are arrayed in disorderly procession. There are ledges of tawny and white sandstone and broken-off slabs lying about in untidy piles. In the gullies rest fractured pink and black logs of petrified *Araucarioxylon arizonicum*, a stately evergreen tree

*A colorful wilderness
exists just
out of sight beyond
Interstate 40 in Arizona.
Photos courtesy of
the National Park Service.*



that ceased to exist in some nightmare millions of years ago. But a number of *Araucarioxylon* achieved immortality: their trunks were preserved by being saturated with an inundation of water laden with dissolved minerals that later crystallized into types of quartz. The wood solidified into agate, jasper, opal and chalcedony. Some of it is gemstone.

From a mini-plain to the left rears a cone perhaps 30 feet high. One of the sightseers from Omaha enthusiastically hands you his binoculars and, working the focus knob, you make out a diminutive dead volcano. From its vent extrudes a frozen column of lava. The yin and the yang of prehistory.

Away to the right are chocolate mounds of that strange clay known to geologists as bentonite. Its oddest property is that on wetting, as from a rain, it

is likely to expand many times its own volume, much as would popcorn in a hot pan. There is a lot of bentonite in the Painted Desert. It comes in shades of white, brown, gray, blue and yellow ocher, but red is dominant.

Bentonite is the real reason why no road seeks to penetrate the secrets of this desert—the upheaval of ground after every rain would make it impossible to maintain. Its many pigments also furnish the reason for the name, *el desierto pintado*, which the explorers from Spain christened it in 1540 when they came searching for the fabled Seven Cities of Cibola. The Spaniards found Cibola, for it was the province of the civilized Zuni pueblos clustered on the plain a few miles to the east. But ay There were only six cities instead of seven, and they were in size much less

than cities, nor were their streets paved with gold or turquoise. Nor are they today. In fact, they are not paved with anything. If Zuni remains poor in material things, however, it is rich in the religious mysteries. Among the many Zuni ceremonials is *Shalako*, a house-blessing ritual in early December when priestly figures dance in masks that for sheer size—up to eight or nine feet in height—are, say anthropologists, not to be equaled by those used by any other people in the world.

As you gaze upon the Painted Desert, the milky clouds pushing their shadows over the land have been thickening. The afternoon becomes lively with rumbles. It darkens. A thousand feet off a spear of direct current leaps downward at a stunted juniper: the stricken dwarf glows incandescently in its last second of life,



then vanishes in atoms of exploded sap and cellulose. A tremendous bang follows. For a quarter hour rain descends.

Dust and loose sand are washed from the eroding formations, whose colors brighten and sparkle cleanly. Now a marvelous thing happens: the rain loosens the surfaces, and liquified earth in all its tints is homogenizing and beginning to pour into the ravines and draws and arroyos and washes. Presently the desert's arteries fill with frothing streams of pink and maroon.

Minutes after the heavy rain passes the streambeds begin to dry. The blood-like streams recede. The sun shows overhead; its rays bore through the thinning clouds and like searchlights play in silence upon the damp ground. As twilight comes on the day's bright colors deepen to magenta, at length fading into neutrality. With night the badlands become masses of dark immobile crouching beasts and Gaudi-like oratories.

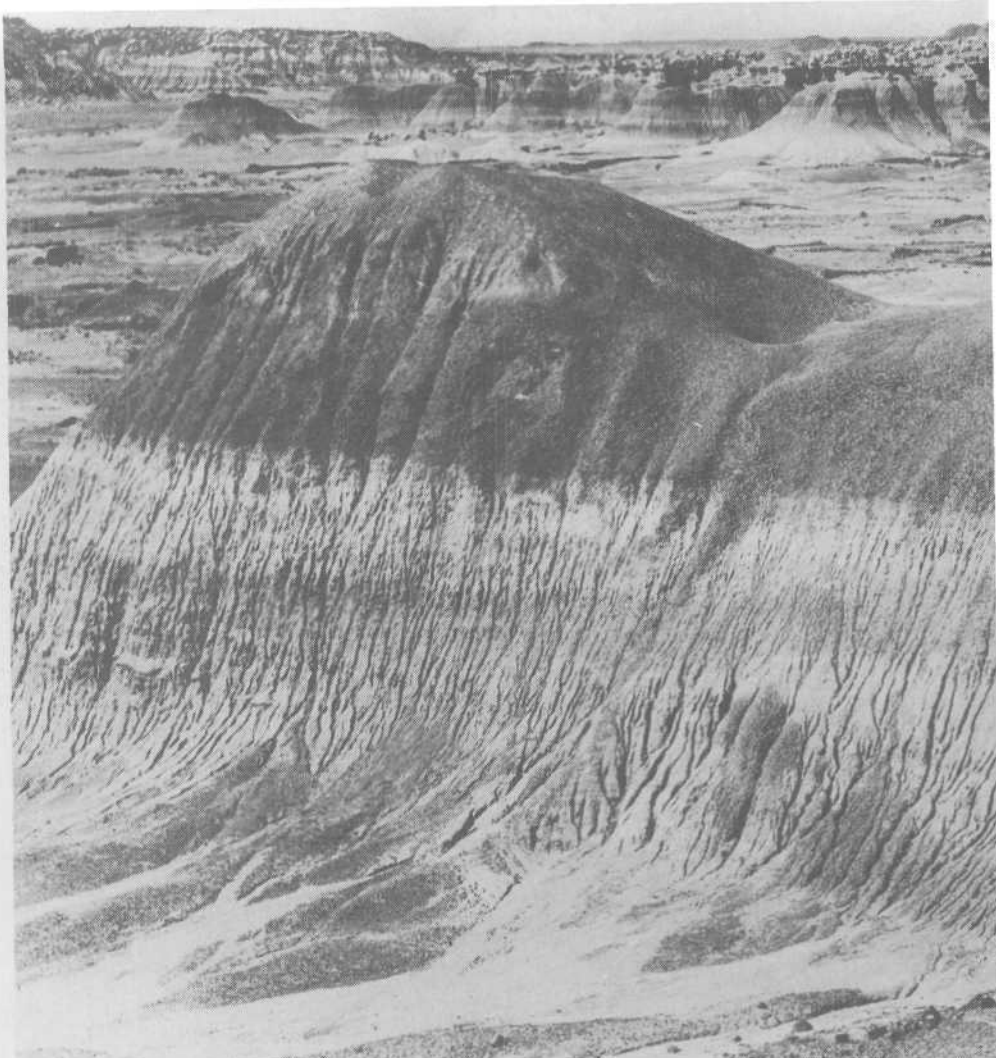
Petrified Forest National Park is not

Typical bentonite formations. Horizontal bands denote the presence of red and yellow iron oxides, manganese and other minerals that make the Painted Desert so colorful.

the only place from which the Painted Desert may be visited. But it is the most accessible, as well as being a likely jump-off point for backpacking or horse-back trips in this primitive wilderness. Nine overlooks spotted along five miles of park road give views of the desert.

In its entirety, Painted Desert is of very respectable extent, being roughly 150 miles in length while ranging from about 10 to 30 miles in width. It is situated along the right banks of the Puerco and the Little Colorado Rivers, from a little east of the park to the region south-east of the Grand Canyon of the Colorado. The fractional tract of Painted Desert—some 67 square miles—that is enclosed by the park's boundaries has been designated by Washington, D.C., as a wilderness area. It contains the 'Black Forest,' an impressive deposit of petrified trees, some of which are truly black as carbon.

The desert is not a single continuous swath. Through the forces of erosion it has been carved from the mile-high pla-





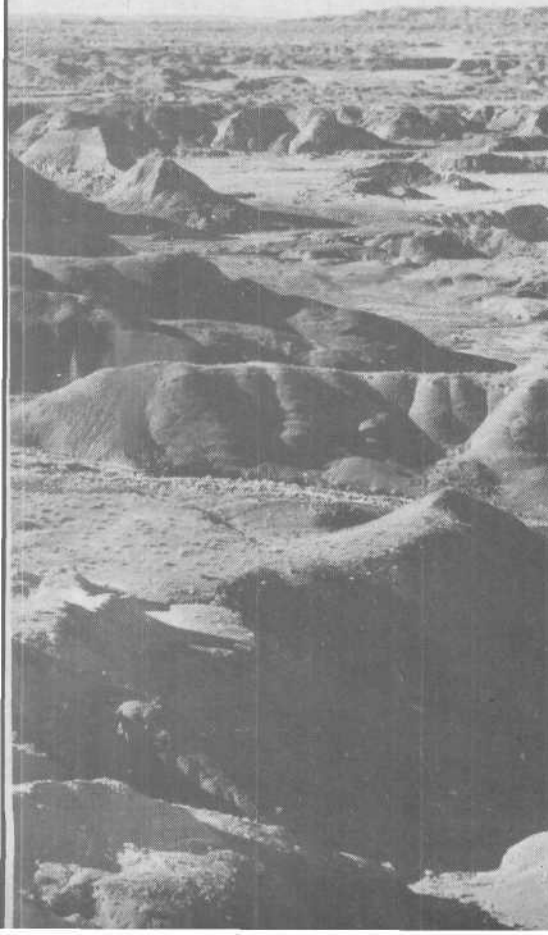
teaus of Arizona into a series of basins; separating the basins are corridors of short-grass plain, on which sheep and cows graze and dirt roads straggle. Seeps and intermittent springs occasionally burst forth in the basins. Their trickles give life to tiny oases, which nourish small herds of deer and antelope and the ubiquitous hares, coyotes and ravens. There are almost surely a *manada* or two of wild horses, though the Hopi and Navajo, on whose reserves the greater part of the desert lies, are not telling. The godfatherly Bureau of Indian Affairs has meager sympathy for the casual tolerance of native Americans towards grass-eating wildlife. Counter-productive.

Around the turn of the century, outlaws—most of them stock rustlers—found temporary haven in the desert's badlands. Solitude and the lack of potable water generally evicted those the sheriffs and Indian police could not. In the 1920s and 30s a gang of car rustlers would spirit away autos in the quiet of the night from the mom-and-pop tourist cabins on U.S. 66 and cache them where they could be stripped unmolested. Parts of Model Ts and As and Nashes molder still in hidden canyons.

Nature's relentless wearing away of the Painted Desert (a geologic study of one site showed it disintegrating at the quite awesome rate of a quarter inch a year, most of it destined to wind up in Mexico's Sea of Cortez), does not encourage plants to take roots and flourish. Neither does it encourage habitation by man. Not in this age, certainly, although in the bygone times of sturdy foot travelers, the Anasazi, those ancient ones, built rudimentary homes here from sandstone blocks and chunks of petrified wood, and pecked out mysterious petroglyphs on the rocks in the lulls between corn planting and rabbit hunts.

So the Painted Desert remains very much as it was when the early Indians, and later the Spanish soldiers, first saw it—not for any permanent use, but fascinating, and painted like a trollop whose desolation remains to be discovered. *Halchiitah*, "amidst the colors," is the name the Navajo have given this wilderness, and it is revered as part of their ancestral homeland. The whites haven't found any better use for it yet.

The Painted Desert remains America's wilderness by the interstate. ☐



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Mesa Verde

A Dramatic Link to the Past

by RAY POMPLUN



oping a civilization which blossomed during Europe's Dark Ages. Without experiencing a gradual decline their culture disappeared, leaving many questions unanswered. Not even Indians first contacted by whites could explain their leaving. Cliff houses, their last spectacular homes, lay empty when Spain's Coronado explored the four-corner area and their descendants perhaps are scattered throughout Arizona and New Mexico.

Clothed with pinon, juniper and thick vegetation, the high plateau was first called Mesa Verde by early Spaniards. Rising abruptly 2,000 feet from the floor of Montezuma Valley in the north, it slopes south to an expanse of bluffs 1,000 feet high, cut by steep and almost parallel canyons. From a distance the fifteen-by-eight-mile mesa looks level, with ravines and sheer-walled gorges going unnoticed.

Early occupants of the area were primitive Mongoloid hunters who had followed the sun across the Asiatic land bridge, drifting down from northwestern Canada about 10,000 years ago. Cultural

SOUTHWESTERN COLORADO IS home of the finest prehistoric Indian dwellings in North America. And the Anasazi (people who went before) are responsible, with archaeological findings extending their culture farther and farther into the arid deserts of south-

western United States.

According to Ute Indian legend, these people were once animals living within the bowels of the earth, assuming human form after climbing to the upper world on a giant cornstalk. They flourished for better than 1,000 years, devel-



available. These peaceful habits, perhaps, were instrumental in their downfall as warlike tribes drifted down from the north during the 12th century. To the Navajo, Anasazi meant "the old ones" and when visiting New Mexico and Arizona towns of Acoma, Zuni and others, the hardy Indian culture from which they came is still visible.

While natives were farmers living in caves on the mesa top and canyon floor, their culture also featured an excellent type weaving, using turkey feathers as a base. In the following centuries architectural improvements were made, fired pottery developed, bows and arrows, awls, nets for hunting and tools for tilling the soil came in to existence. People, congregating in larger communities outside the caves, built pit houses partially above and below ground. Nevertheless through the centuries it was the old culture developing, not a new people taking over.

The Pueblo Period from 750 to 1100 A.D. was a time of prosperity when more attention was paid to farming. Game was still hunted, wild seeds gathered and stored but emphasis rested on tilling the soil and beans were added to the crop list of corn, cotton and squash. During the

progress was slow for several thousand years and the Anasazi cycle, as we know it, began at the time of Christ when a group known as the Basket Weavers settled in shallow caves on the canyons' floor. They eked out a livelihood hunting the mesa's smaller game and peak development was reached in Colorado, Utah, New Mexico and Arizona between the 11th and 13th centuries. Because of a difference in head shape, an early theory claimed two tribes responsible for cultural advances over the centuries. But anthropologists now maintain use of cradle boards, merely a fad in later centuries, caused the flattened heads.

Being a quiet, peace-loving people, remaining calm when differences arose in their society, progress was accomplished through group action. A democratic existence was instituted when an exchange of ideas was permitted in both religious and social life. And by this characteristic, they're considered the first democratic government in North America. Specific weapons for war were never made and if attacked, the ancient Anasazi defended themselves with whatever means

Above: Nestled in the caves of Mesa Verde, cliff house construction offered the full range of Anasazi architecture. This was the Classic Age and these citadels grew out of the basket weaver culture 1,000 years before. Right: Members of the 1874 exploratory expedition descending into Mancos canyon. Photos courtesy of the State Historical Society of Colorado.



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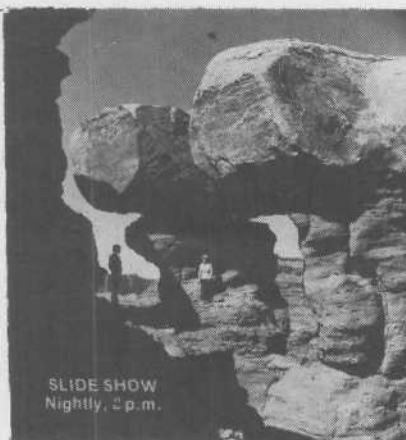
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Walking Rocks in Canyonlands

latter half of this period the huge pueblo dwellings atop the mesa, in Mancos and Chaco Canyons were built. They were massive structures with multiple dwellings attached on the same or additional levels and could be called North America's first apartment houses. Mesa Verde became densely populated and occupants were content to remain in huge community-housing and worship in magnificent underground kivas. But prosperity attracted northern warlike tribes.

Later, perhaps for security reasons, the Anasazi retreated to caves between the floor and rim of canyons, constructing fortress-like structures known today as cliff dwellings. Huge sandstone slabs, taken from the mesa top and pueblos, were lowered over cliffs and used as building material. This final period of Anasazi culture, known as the Golden or Classic Age, commenced in mid-12th century. Their beehive apartments were a maze of hundreds of units under one roof. Largest and best known of these is the Cliff House with its eight levels and corner rectangular tower reaching from the ground through the eighth floor. By this time masonry had been so perfected that this unusual structure contained the full circle of Anasazi architecture. And today, after seven centuries of abandonment, it shows surprisingly few signs of deterioration.

For decades Spanish under Coronado, de Onate and de Niza roamed the Southwest, leaving no account of having seen the mesa or its ruins. In the year of our independence, Padre Escalante, viewing the mesa from a distance but failing to climb to the top, gave it today's name. And not for years after United States wrested the region from Mexican control was an attempt made at exploration. Nearly a century following Escalante, an American archeological expedition found the ruins in Mancos Canyon but Mesa Verde's magnificent cliff houses went unnoticed. It remained for two cowboys, hunting strays in a blizzard in 1888, to be the first known white men to wonder at the majesty of the world's now famous Cliff House.

Life for the Anasazi was a continual struggle for water and in tramping the mesa top and canyon floors one still sees their efforts to trap rain and hold the precious soil. With a limited supply of both, these prehistoric farmers were expert at nursing crops to maturity. Men were

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By Harry Crosby



MANY MOONS BY RUSS & NORMA McDONALD



"HE ALWAYS DID HAVE TROUBLE WITH HIS SPELLING."

farmers, hunters, weavers and performed religious rituals while women were millers, bakers, potters and assisted with building construction. The modern Anasazi refer to their "mother's house" and "father's field," a throwback to the old belief one owns the place where he or she spends most time.

Much remains unknown of these ancient people and reconstruction of their history is possible only through a method devised by Dr. E. A. Douglas, a scientist at the University of Arizona. His "calendar tree" technique, measuring time by tree rings of timbers taken from pueblo and cliff house construction, made possible dating different periods of their development. And it's also a key in determining the reason for leaving their mesa home. On achieving the highest degree of advancement they had walked away from 1,000 years of culture. Why? Earlier theories claimed these ancient Indians had, in some way, become extinct. But examination of their bone structure proves it so closely resembles that of present day southwestern Indians that the claim of a lost super race is dispelled.

Then, what was the reason for their departure? Several theories exist but in the end perhaps it was a combination of many. Nevertheless one thing is certain. During the last 25 years of the 13th century this area suffered a severe, prolonged drought. Cotton, corn and beans withered, wild seeds and berries shrank and drinking water became scarce. Since the mesa's population exceeded 70,000, starvation became a stark possibility. Perhaps a slow migration was taking place before the drought and accelerated during those last 25 years.

There are several indications these last decades were troubled times. Pressures from warlike nomadic tribes and unfriendly neighbors were growing and defensive positions of many dwellings suggest a strife of a sort. Evidence as to the identity of these marauders is scant but they're believed to be forebearers of Utes, Navajos, Apaches and Kiowas who remain hostile toward today's pueblo people. Perhaps this ill feeling was of local origin, clan against clan or clan units against large cities, but there's no sign of a siege. Was there an epidemic? Again, proof is lacking but characteristics and habits of modern Anasazi indicate they wouldn't abandon their homes



Cliff Palace, gem of the Anasazi culture, is 100 feet high and 300 feet long. It contained 200 bed and storage rooms, 22 kivas [religious ceremonial rooms] and cooking was done on the outside. Photo courtesy Colorado State Historical Society.

for this reason. Others suggest an undoing not only from drought but from sand. Material eroding from soft sandstone instruments used in grinding, found its way into the diet causing bad teeth, gastric disorders and severe rheumatism attacks. An examination of mummified remains shows signs of suffering from these modern infirmities. Those holding this theory believe mesa residents suffered constant ill health after reaching 30.

Regardless of reasons, the "ancient ones" dispersed from their "green table," settling in an arc stretching from the upper Rio Grande south to the Zuni region in west central New Mexico. A

group also established a village cluster near the present day Hopi reservation in northern Arizona. In their new homes, Mesa Verde's once great people never reached their former grandeur. Whatever reason they had for leaving, their cultural life failed to recoup from assaults experienced at their former home, and farming Indians never moved in after "the ancient ones" moved out. In their religious world all magical things went by fours and perhaps they believed evil spirits had entered their country forcing out the good. With victory of evil, attack of powerful enemies, rivers going dry and crops turning to dust, it was time for them to move on. □

*Pinyon Flat from high above
in the Santa Rosa Mountains.*

*Photo by George Service
of Palm Desert, California.*

PICTURESQUE PINYON FLAT

by BILL JENNINGS

MOTORISTS BOUND in mid-summer for the seductive, air-conditioned pleasures of Palm Springs or the fishing eden of Salton Sea rush right by historic Pinyon Flats on California State Highway 74, the Palms-to-Pines route, without realizing they are bisecting an historic benchland that has served in recent decades as the desert's cooling-off spot.

It's probably just as well, because the relatively late-arrival denizens of what is now called Pinyon Pines relish their privacy. So much so, that they complained collectively a year or so ago when the Riverside County Road Department paved their principal streets. They liked the old winding dirt lanes that took detours to avoid ancient pinyon pines or particularly large granite rocks.

Pinyon (we'll use the Anglo spelling of this fine old Spanish word meaning little pines) hasn't been a retirement village very long. It became one about 20 years ago when many of its erstwhile seasonal residents from the Coachella Valley began to retire and convert their seasonal homes into permanent residences. At about the same time, Pinyon was discovered by many other people and its emer-

gence as a year-round community was assured.

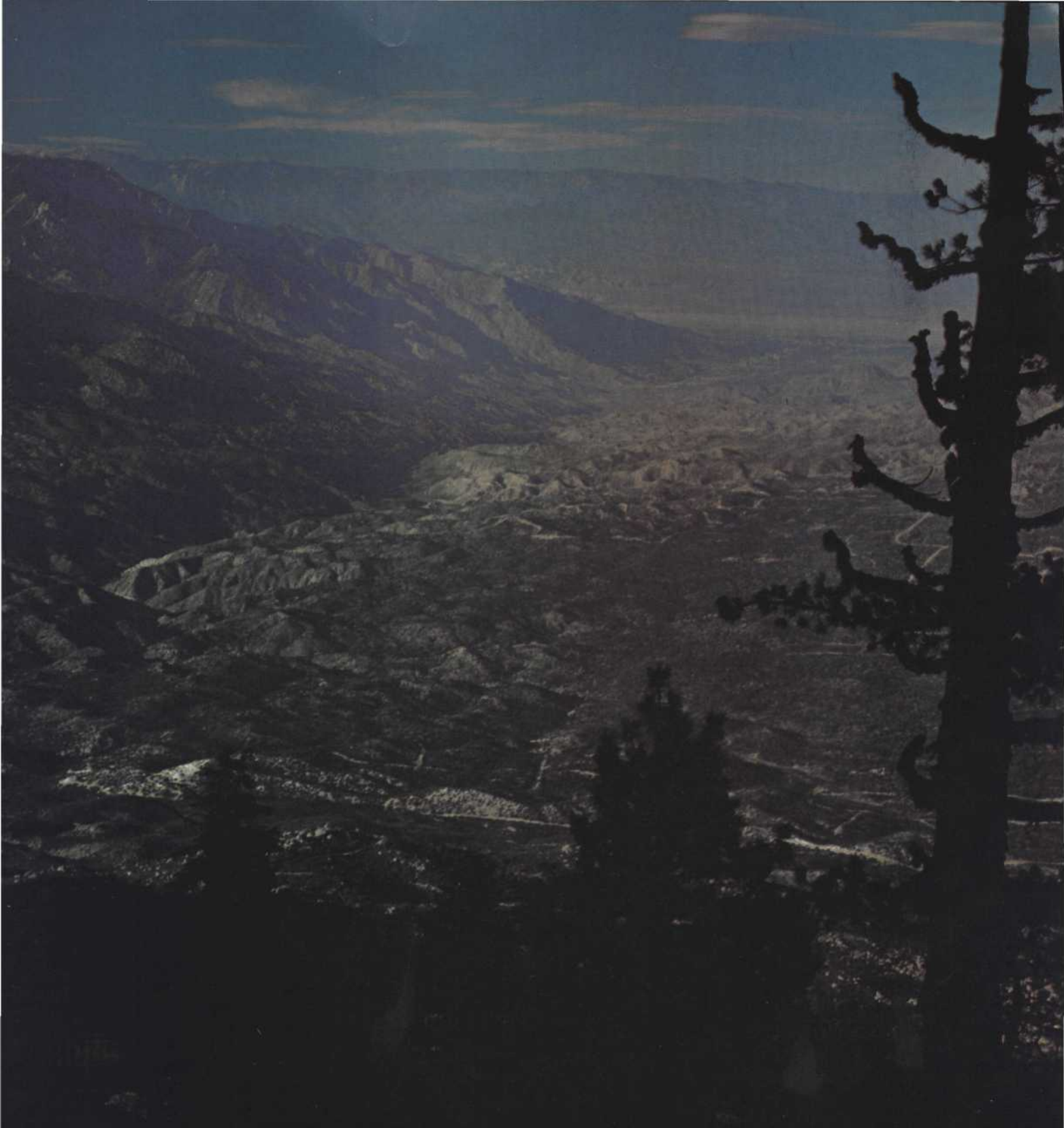
Now, the community has a common meeting place and purpose in the form of a volunteer fire department and a new, \$50,000 state and county fire station installed two years ago.

In the years immediately before and after World War II, Pinyon drew its summer population from the hot desert valley below because it was the first flat place high enough (4,000 feet) to offer much relief from the summer heat and also had room for cabin sites. It is an oasis of cooling green, pinyon pines, scrub oak and juniper, blessed with a spotty water supply adequate for domestic use in all but the most serious drought years.

Long before the summer rush, Pinyon Flat was known primarily as cattle range and mineral prospecting territory, to about the end of the Civil War. The first users were members of the Arnaiz family, mountain pioneers, and their descendants, Jim Wellman and his family, still run range-wild cattle there.

Along with the cattle grazing—signs of which are found mainly on the slopes of Asbestos Mountain at the north end of

the Flats—there was sporadic prospecting and some actual mining. This has continued as recently as World War II, witness the open pit dolomite mine just south of the Sugar Loaf Cafe and store and the fire station on State Highway 74. Several asbestos claims are still on the books of the U. S. Bureau of Land Management (BLM), federal custodians of



the mining laws.

The late Elmer Dunn, a longtime spokesman for the Western Mining Council in its running battle with the BLM and the National Park Service over closure of mining sites in the Joshua Tree National Monument, was a Pinyon Flats asbestos miner, with several claims and an old cabin remaining as evidence

of his long tenure. Dunn died about 25 years ago and his cabin more recently was refurbished as a pleasant year-round residence.

The U.S. Forest Service recently modernized its 29-space Pinyon Flats Campground, which remains in the primitive status but has toilets, running water, tables and charcoal stoves. The water is

excellent. The camp is attractively framed by the finest pinyon pine forest in Southern California so the view alone is worth any inconvenience.

The campground is part of the San Jacinto Mountains District of the San Bernardino National Forest and sometimes may be full in mid-summer. A call to the Idyllwild ranger station is in order



Pinyon Flat campgrounds, maintained by the U.S. Forest Service, offers a cool haven for desert residents at 4000-foot elevation in the Santa Rosa Mountains.

Campgrounds, four miles back down the road from Toro. Other sites at Stump and Cedar Springs are for picnicking and fall-seasonal use by hunters.

The historic area north of Pinyon Flats is accessible by several rocky Forest Service truck trails and the improved Palm Canyon Road, which reaches a locked gate at the entrance to Palm Springs Atajo, a private enclave three miles north of State 74. All of these are well-marked and detailed on the San Jacinto district maps available from the Forest Service.

One spur reaches both the old Asbestos Spring, flowing fitfully with good water last spring, and the partially ruined Arnaiz cattle holding corral. Fish and game biologists have added a wild-life water tank near the old cattle water trough at the spring and it's a good place to spot deer and other game animals.

There's no trace of the old line shack that used to hide in the pinyons near the spring but the writer found a few boards and bolts from an old spring wagon there several months ago.

Asbestos wasn't the only somewhat exotic mineral sought in the Pinyon area, although gold glory holes were the most common activity. The dolomite mine south of Route 74 has been active off and

before you make the long trip up scenic but winding Highway 74, known locally as the Palms-to-Pines Highway. If Pinyon is full, there are county camps at Idyllwild and Lake Hemet, 25 and 20 miles to the northwest. There are smaller federal sites further up Santa Rosa and Toro peaks, which are reached by Forest Service Route 7S02, the highest public road in Riverside County.

Roadside camping is not allowed anywhere in the forest, partially due to perennial summer fire problems, made much more restrictive this summer due to heavy winter rains. Near record-level downpours helped spur the heaviest chaparral growth in local history and ended a record drought that had plagued the high country since World War II.

The 15-mile road up Santa Rosa, from State Highway 74 five miles west of Pinyon Flat, is a spring-busting dirt track much of the time, except right after the Forest Service grader passes through each spring. By late summer, the narrow road usually disintegrates into a semi-passable rocky trail. Heavy campers and travel trailers are definitely not recommended. This road also is the access to an isolated section (640 acres) of the Santa Rosa Indian Reservation, off-limits except to hikers and service trucks for the several communications firms that

have antennae for radio and television on the 8,716-foot summit.

Toro's view is worth the short hike from the cable-lock gate near Virgin Spring. To the south, you see well into northern Baja California, Mexico; to the west, San Diego Bay, the Coronado Islands on a clear day, and to the east, the lower Colorado River Valley near Yuma. Only to the northwest is the view obscured by the 10,805-foot bulk of neighboring Mt. San Jacinto, highest point in Riverside County.

Camping on Santa Rosa is difficult. There are only three official sites at the Forest Service's little Santa Rosa Spring



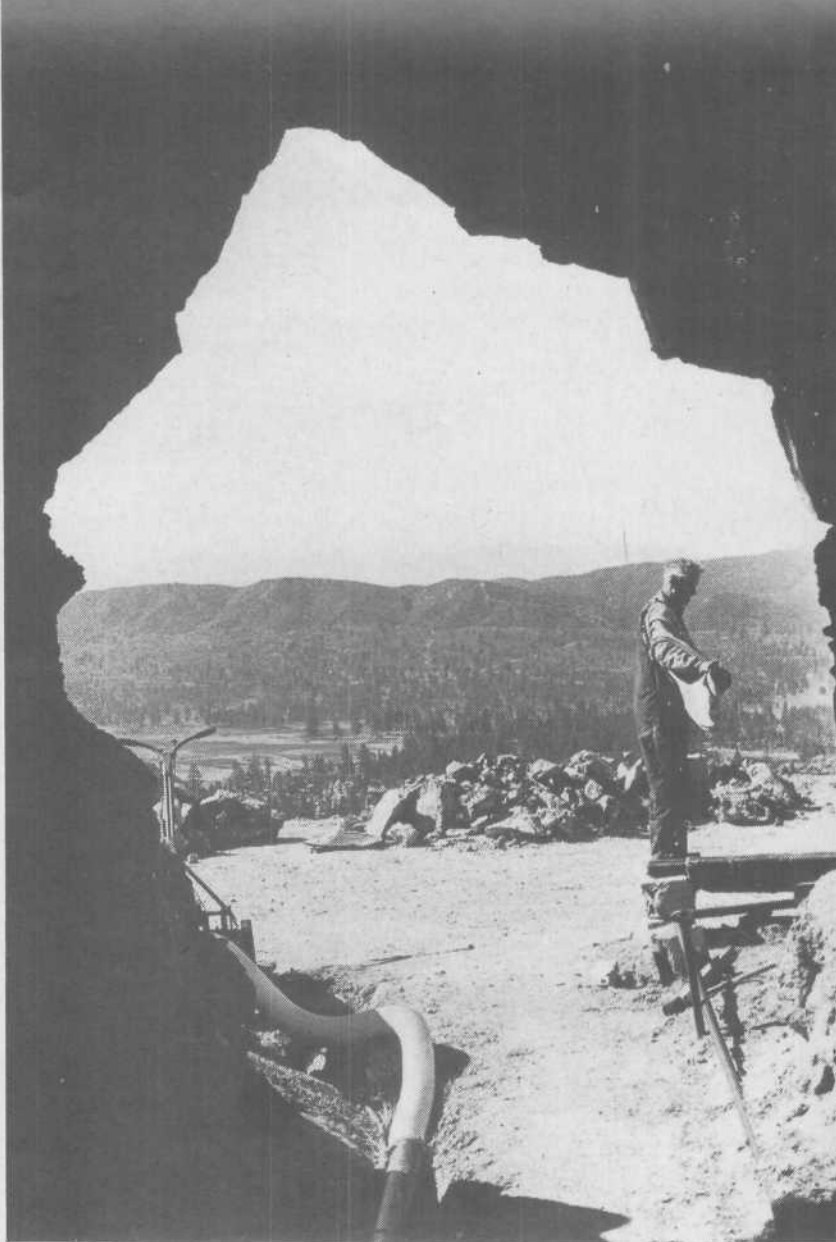
An old [circa 1910] photo of Lake Hemet in the San Jacinto Mountains. This big reservoir on the south fork of the San Jacinto River provides irrigation water for several thousand acres of farmland in the San Jacinto Valley, near Hemet.

on for many years, the most recent spurt resulting from a demand for the crushed white marble as roofing rock. The old mine is at the trailhead of the Forest Service's most remote foot and horseback tour of the Santa Rosas, the Cactus Springs Trail, 5E01. It offers a rigorous alternative route from the San Jacinto-Santa Rosa range to the Salton Sea by way of Martinez or Agua Alta canyons, two of the most rugged gorges on the east side of the range. In mid-summer, however, the hiker or horseman is urged to stop before passing either Cactus or Agua Alta springs, five and nine miles from the highway, respectively.

For one thing, neither spring is a reliable summer water source, although both produced canteen-sized flows earlier this wet year. Summer hiking is not recommended in the arid Santa Rosas due to high temperatures, dubious water supply and lack of trail maintenance. In the neighboring San Jacintos, hikers and horsemen don't have these problems, but they will need trail reservations to use the wilderness areas of both the national forest and the adjoining state park.

The lure of Pinyon Flat isn't restricted to hikers and horsemen. Numerous high-crown dirt roads offer diversion to the careful driver but recent off-road vehicle restrictions adopted by the Forest Service apply to the Cactus Spring area. Motorcyclists hastened the restrictions

Dexter Mayne, longtime San Jacinto Mountains miner, empties his sample sack outside his Hemet Belle mine high above Garner Valley, which is in the background. Mining formerly was a major activity in the San Jacinto-Santa Rosa ranges.



several years ago when they damaged an Indian village site near the Cactus Spring junction by doing "wheelies" over the surface site.

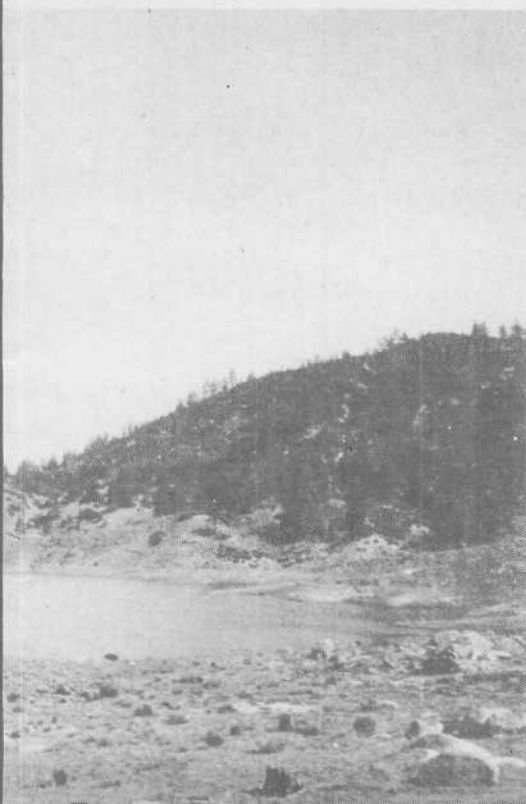
Accommodations other than campsites are non-existent at Pinyon Flat, although motels are available at Idyllwild, in the nearby Coachella Valley and in limited supply at the village of Anza, 15 miles to the west on State Highway 371.

The most attractive alternative camping areas near Pinyon Flat are at Lake Hemet, in the Garner Valley about 15 miles northwest. Here the county and Lake Hemet Municipal Water District operate high-class trailer and camper areas—but again, demand often exceeds space available so advance reservations are necessary. The district has an office at the lake and the nearby Herkey Creek County Park also is staffed fulltime. There is a store and gas station adjoining the lake.

There are overflow Forest Service campgrounds on nearby Thomas Mountain with lovely vistas of white fir and pine stands. Water, however, must be brought by the camper during summer. Open fires are prohibited here also due to the chronic fire danger.

Whatever attractions bring the visitor to Pinyon Flats and environs, the desert's summer home, visitors are urged to confine their picnicking and camping to public facilities. Much of the land is private and by law doesn't have to be posted as such.

The greatest worry to residents and park-forest officials alike, is fire. Several major blazes have occurred in recent years and in the semi-desert environment of Pinyon Flat, regrowth is slow. Be a welcome and appreciative summer visitor in the desert's high country neighbor, but watch those smokes and matches! □



MADE UP of a motley crew of loud-mouthed crows, jays and magpies, the Corvidae family is not known for shy and retiring ways. In fact, these are very brash and noisy fellows, bright of eye, alert, and no bird-brains when it comes to knowing how to make the most of their circumstances. Take the pinon jays, for example, who prosper in the face of uncertain food supplies and a most unpredictable and variable environment.

Maybe the pinon jays got off to a good start by being not exactly jays and not exactly crows, the end result something perhaps more efficient than either. Dull blue in color, they have the jay trappings, but they are shaped more like crows with their shorter tails, and when on the ground the adults tramp about with crow-like decorum, never with the nervous hopping of jays. Behavior-wise, they have adopted some of the social patterns of Old and New World Corvids and New World jays and what emerges from this combination is a bird society both complex and highly advantageous to the pin jay clan.

Its members rejoice in a variety of names. Their scientific handle is *gymnorhinus cyanocephalus* (naked nose-blue head) referring to their featherless nostrils and to their head which is darker blue than their overall blue coloring. They are known as Maximilian's Jay after the fellow who first brought them to scientific attention, and further as blue crows, which is getting pretty close. Finally, they are called pinon jays for the very sound reason that they hang around in flocks where pinon pines grow. In fact, this tree is virtually the cornerstone in their social set-up. So close is their relationship with the pinon that the scarcity or abundance of its seed crop determines where these jays are going to be. Years of poor seed production in their home area sets them to wandering, perhaps ending up many hundreds of miles away in places where they may never have been seen before.

The pinon jays have taken the crow tribe's flock idea and built it into something magnificent. A flock of 25-125 of these jays is not unusual, time was when 1000 would be the number. A closely knit unit, the pinon jay flock is maintained the year around, the birds foraging together, roosting together and in the proper season, raising their young together

in colonial style nesting.

Headquartered in the pinon-ponderosa belts of the mountains and down onto the pinon belts of the desert ranges, each flock has its home range. Within this, there may be a definite area traditionally devoted to nesting, as Zoologists Russell Balda and Gary Bateman found in their highly valuable studies of the jays residing near Flagstaff, Arizona.

The flock is actually the largest in the non-reproductive parts of the year. In the fall, for instance, it is made up of adults in their rich blue, yearlings looking like them but still learning the ropes, and youngsters in their grayish juvenile dress beginning to get their adult coloring. And, if the flock is composed of a couple of hundred birds, there are 200 big mouths going most of the time, for let it be said that of all the noisy Corvidae family, the pinon jays hold first place for clamor. A flock of these birds just conducting their normal affairs can be heard for miles.

A day in a pinon jay flock in the non-productive season goes something like this: come daylight, there's a stirring in the trees where the flock has roosted en-masse, and then—a sudden feathered explosion as the birds leave the trees. Forming into a flock quickly, they streak off towards the feeding grounds in their characteristic flight pattern—a rolling mass of strong flying birds, every jay "krawwing" and each apparently trying to out-squall the next fellow in creating din and clamor.

Reaching the foraging grounds, they swoop down and light, jostling, crowding yammering, some late comers perhaps even landing on the backs of those already on the ground. Yet, with only an indignant squawk or two, the birds sort themselves out without conflict. Highly tolerant, they feed communal style, their ranks moving steadily forward and, as the birds march along feeding, some in the far rear may sail forward to land ahead of those in front.

While the flock feeds, some four to

twelve sentries are on the job, posted on high vantage points. They sit silently watchful. One spots a fox! He lets loose with loud and raucous krawws of warning and the whole flock takes wing up into the trees. The sentry now pin-points the trouble by flying 10-15 feet above the fox calling loudly, squalling. A dozen or so other jays join him at once. Flying around the intruder, they create such a clamor that the fox at last streaks away. More vocal work by the sentry and his allies apparently indicating all is clear, and the flock settles down once more to its feeding.

Much of the day during the non-reproductive season is spent flying about the home range and feeding, the last intensive foraging period taking place in the early evening. Bedtime, the birds stream off to their roosting areas, calling loudly as they land in the trees and scramble among the branches. The noise begins to taper off as they settle into roosting clumps of two to five birds, and by the time night's curtain is down on the jay boudoir, every big mouth is finally shut up. Next A.M., it's up with the dawn, time for clamor and a big communal breakfast.

These jays have a passion for storing groceries. Come pinon seed harvest time, the flock is hard at it most of the day. Gathering seeds takes a lot of energy, and must be done in a relatively short period in hot competition with other birds and squirrels. The jays have to be sure of a good supply, for it is these pinon seeds that will not only feed the flock during the winter, but will also determine the success of the upcoming breeding season.

The jay whacks and beats the cones open, extracts the seeds and partially swallows them. Holding them in its throat until a load is gathered, it flies to the flock's cache site, located very close to the area in the home range where communal nesting will take place. Landing on the ground, usually on the south side of trees where the winter

The Pinon

on Jay

by K. L. BOYNTON

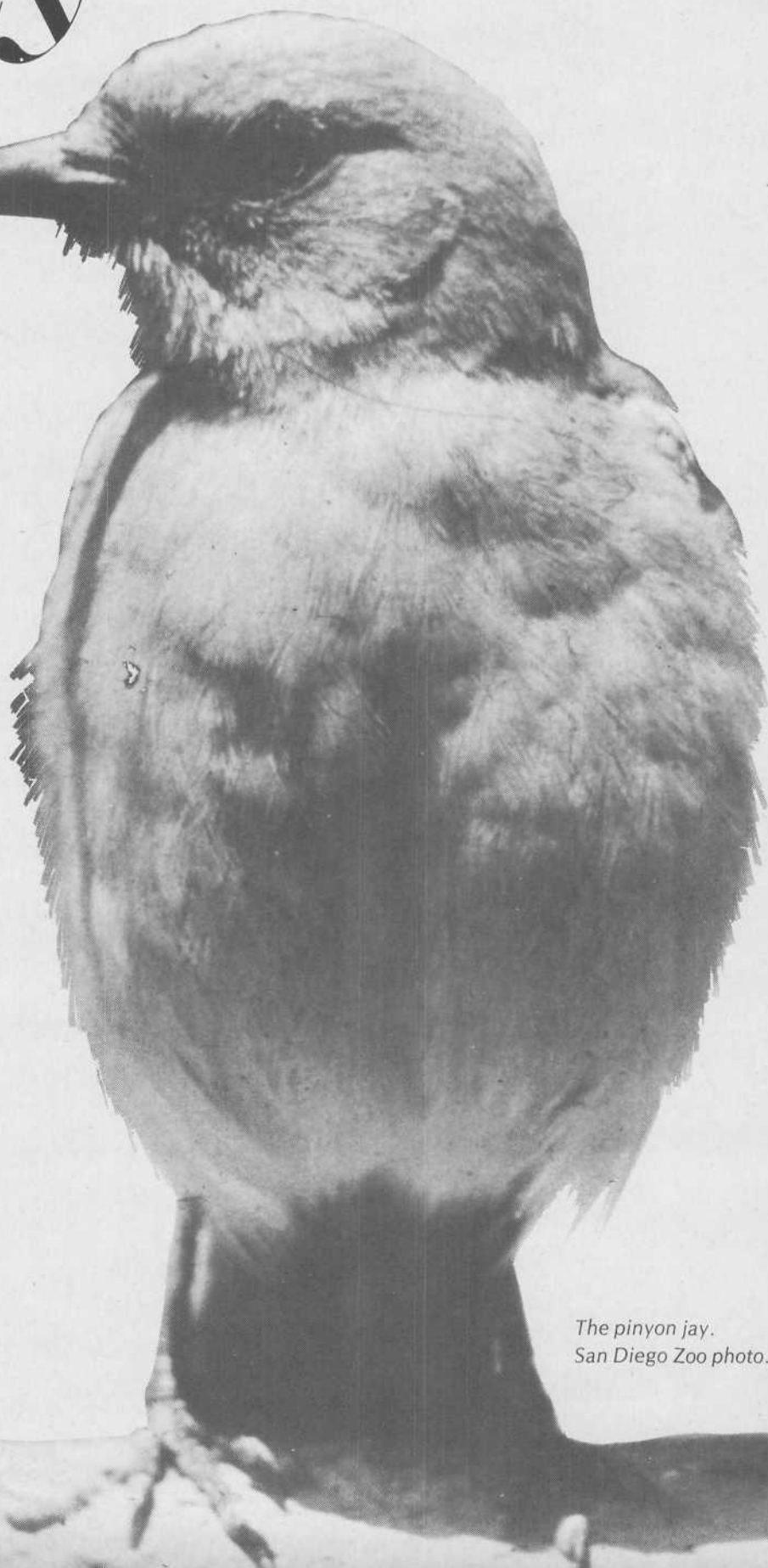
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snows will be lightest and first to melt in the spring, the bird carefully clears a spot. Then, flicking its head it brings the seeds up into its bill and pushes them into the ground. Next comes the cover up job, needles, grass, debris added for camouflage. Then it's off on a speedy wing for another shipment.

The crux of the whole thing, naturally, is that only good seeds should be stored, it being a big waste of time to bury bad ones no good to eat. Now, not all seeds in a cone are good, yet zoologists who highjacked loads from working jays found there wasn't a bad seed in the cargo. How do the birds tell the good ones?

Zoologists David Ligon and Dennis Martin, carefully examining pinon seeds found a big difference in color. The good ones were dark brown on one side, lighter on the other with dark spots, while the bad seeds were consistently lighter color. Weight wise, the good seeds were much heavier.

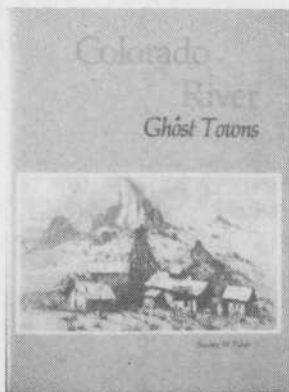
Working with adult captive birds, they offered various combinations of good and bad seeds and found that the birds, eyeing them, picked the good ones, obviously judging by their looks. So the zoologists changed the color by roasting



The pinyon jay.
San Diego Zoo photo.

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all the seeds. This didn't throw the birds, for they called up test #2: the good old manible click wherein the bird opens and closes its bill over the seed several times making a clicking sound. Some auditory cue then helps in making a correct selection when color isn't reliable.

In further tests with jazzed-up seeds, the birds showed they also use weight as a cue. Puzzled by appearance and indefinite clicks, they pick up a seed and either keep it or put it down promptly, the heavier ones being retained in each case. Not about to give up, Ligon and Martin drilled holes in bad seeds, weighting them with shot. This caused plenty of confusion at first, but ultimately the tested birds learned to distinguish the weighted bad seeds from the heavy good ones and reject them. All but one bird which never did get the difference through its head. Quick recognition of good seeds nets the individual a good meal when the flock is shoving along eating together. It is essential, too, at seed harvest if big stores are to be collected.

What with their grocery problem solved by storage and since the pinon jays quite sensibly pair for life and thus avoid the time consuming business of finding a mate each year, a good portion of the flock is ready to start the social season early. Along about December or early January then, the pairs begin feeding a little distance from the main flock and to exhibit the very best Pinon Jay Courting Etiquette, a display of social manners so elegant that they must have been devised by some feathered Emily Post in the long dim past.

To mention but a few: there's the Sidling Shashay where the pair, feathers fluffed, sits on a branch and sidles back

and forth towards each other vocalizing softly. And the Swagger Walk, a kind of feathered cakewalk on the ground, the birds strutting along side by side, bodies erect, tail and wings vibrating, heads moving back and forth in time to some beat heard only by them. Most important there's the Courtship Feeding with the gent presenting choice seeds to the lady. Being a great hand to look forward, he also finds just the right stick for nest construction and offers it to her after the seed present. Old and experienced nest builder she might be, but *this early* she's not about to catch on. The seed presents are gobbled up at once. But the stick. What's *that* for?

It may take a couple of weeks of seed stuffing and rejected sticks before the gent can entice the lady up into a likely tree where he places a stick in a good nest location, hastily rams another seed in her bill, and while she is regarding the stick with faint interest, rushes off to get more seeds for her. Finally, after many another day of seed presentation and stick manipulation, the gent may be sitting dejectedly on a branch about ready to give up on getting the message across, when the lady suddenly decides IT'S ABOUT TIME TO BUILD A NEST! And why doesn't he start bringing the building supplies?

He's galvanized into action. Together they pick just the right tree crotch. He begins hauling in sticks for the strong outside platform of the nest, all the time foraging the seeds to keep the lady fed up and interested. They work on the nest together, the gent doing most of the heavy outside work, the lady making most of the inner cup of shredded and woven grasses and finding insulation material for the layer that goes in between. It takes about seven days to complete the job if all goes well. However, since the flock's breeding pairs are all building at the same time, a lot of swiping of nest material takes place, precipitating chases and wing-flapping rows, the only really aggressive behavior of the whole yearly cycle. One pair was delayed 10 days by constant pilfering.

Now all the seed stuffing during ritualized courtship pays off. The female is prepared for the energy depleting work of egg production, incubation and brooding. The male continues to feed her during the entire time, furnishing at least 80 percent of her daily intake. And where



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do the seeds come from that he lugs to her for 15 minutes every hour? From the stored caches hidden away during the harvest. She's on the nest 99 percent of the time after the naked slate-colored chicks arrive, for the weather is still cold, perhaps snowy, and now the male must bring food for the hungry newcomers as well.

The first 15 days the parents alone feed their youngsters, but during the last four to five days of the chicks' nest life they get help from some of the non-breeding birds in the flock. There may be seven adults working a nest until the youngsters are finally out. Poor fliers even though now fully feathered, the little birds sit about hidden in the foliage and guarded by sentries. They are fed by communal efforts of the flock. Incoming adults land on the branches and are crowded backward by the eager yammering open-mouthed young, while shoving in seeds and, hopefully, insects by this time. Communal feeding stops when the chicks are out of the nest some 20 days, and the parents continue to handle the job alone for the ensuing 10, at the end of which the youngsters can feed themselves with a little help. But by mid-August all handouts cease abruptly and any youngster begging from then on gets the old hunched-up-bill-pointed-lunge BE OFF! treatment from the erstwhile doting parent.

The breeding cycle over, the flock comes together once again with the resultant increased daily clamor. Now to the human ear, all this vocalization is just one big racket. Zoologists L. R. Berger and J. D. Ligon, however, working with sophisticated sound analyzing equipment, found that indeed the jays have some 15 different calls with much gradation within and between them. Studying the behavior of the birds and noting which calls they used under specific circumstances, they concluded by golly it's just not "just noise." Maybe these highly social jays have a system of communication perhaps as complex and difficult for scientists to fully understand as that of some of the higher primates.

Certainly the jays, with the help of the pinon tree, have learned to exploit some very chancy environmental conditions with their year around flock maintenance and colonial nesting, and within this, vocal communication is bound to play a big part. □

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Parasites of The Desert

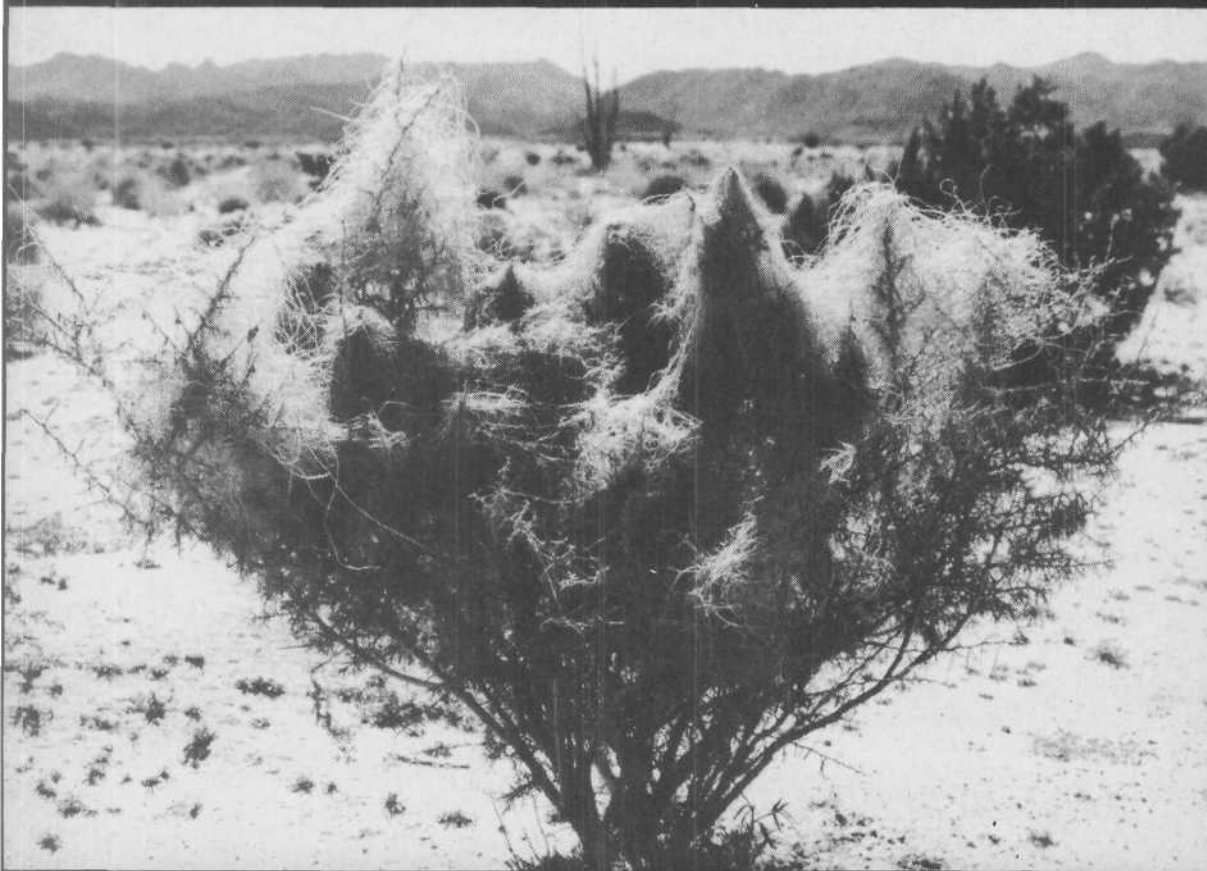
by WAYNE P. ARMSTRONG

In addition to the amazing root parasites there are also some interesting stem parasites in our local desert area. Probably the most familiar stem parasite is mistletoe. There are at least four different species of mistletoe in the desert region of Southern California. They all belong to the genus *Phoradendron* (for-uh-DEN-dron) which is derived from two Greek words meaning tree thief. Mistle-

toe is common on several shrubs and trees, including juniper, mesquite, ironwood, palo verde, acacia, sycamore and cottonwood. Different kinds of mistletoe are very specific as to which host they will grow on. They can be identified by their tiny flowers and whether they have green leaves (the decorative kind) or inconspicuous scale-like leaves.

The most common desert mistletoe

has scale-like leaves and during the fall and winter months contains masses of colorful pink berries. The juicy berries are a source of food and water for several different kinds of birds, such as the Phainopepla. This crested black bird with red eyes is commonly observed in mistletoe-infested thickets of mesquite. The sticky mistletoe seeds readily attach to branches of the host plant. They also



Left: A mass of stringy, yellowish-orange dodder completely covering an indigo bush. Masses of dodder such as this can eventually kill the host shrub. Opposite page: This colorful broom-rape of the higher desert mountains [*Orobanche fasciculata*] is commonly parasitic on the roots of sagebrush. In some areas the flowers are purplish rather than yellow. Photos by author.

pass through the bird's digestive tract and are deposited where the birds have perched. The Pima Indians of Arizona boiled the fruit-bearing stems and ate the berries. Papago Indians dried the berries of one species in the sun and stored them for winter food. Berries of the green leafy forms of mistletoe are quite poisonous.

Another genus of mistletoe (*Arceuthobium*) is parasitic of cone-bearing trees, chiefly in the mountains. One species of *Arceuthobium* (ar-su-THO-beum) occurs on pinyon pines in the higher desert mountains. Pine mistletoe is particularly interesting because the ripe fruits will forcibly eject the sticky seeds for a distance of several feet with the slightest touch. The sap within the berries is apparently under considerable pressure and literally explodes! Seeds only three millimeters long (about the size of a pin head) may shoot up to 49 feet away at a speed of 54 miles per hour.

Another stem parasite that is also very common throughout the desert is dodder or witch's hair. It belongs to the genus *Cuscuta* (kus-KOO-ta) and is sometimes placed in the Morning Glory Family. One popular nature film refers to it as "the creeping web of death!" It may completely cover the host plant with a tangled mass of yellowish-orange, slender twining filaments. It has been calculated that the total length of twining branches produced by a single dodder plant may be nearly half a mile!

It doesn't even look like a flowering plant, but it actually produces tiny white flowers. Dodder grows on many low shrubs, including wild buckwheat, indigo bush, bur-sage, etc. Unlike the root parasites, mistletoe and dodder can be very injurious to the host plant and often kill the host. This obviously also terminates the life of the parasite. In some areas of California



dodder is a serious pest because it spreads over cultivated crop plants, such as alfalfa. The tiny dodder seeds are produced in tremendous quantities and are often harvested with the alfalfa seeds, which they greatly resemble.

Of all the desert parasitic plants, perhaps the most amazing is *Pilostyles* (pie-

LOS-til-eez), a rare stem parasite found in Imperial County and adjacent Arizona. It belongs to the small and relatively little-known Rafflesia Family. In fact, another member of this unusual parasitic family that grows in the tropical forests of Sumatra in southeast Asia produces the world's largest flower, over

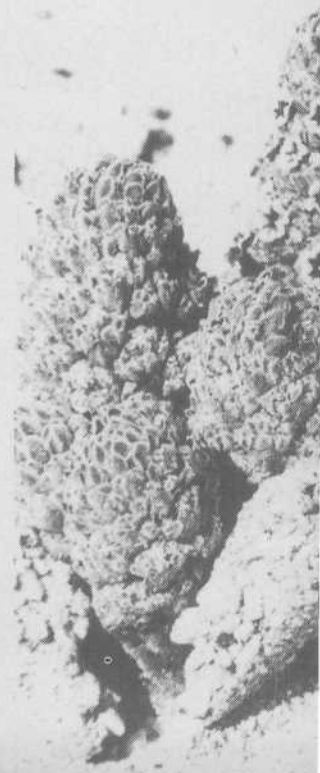
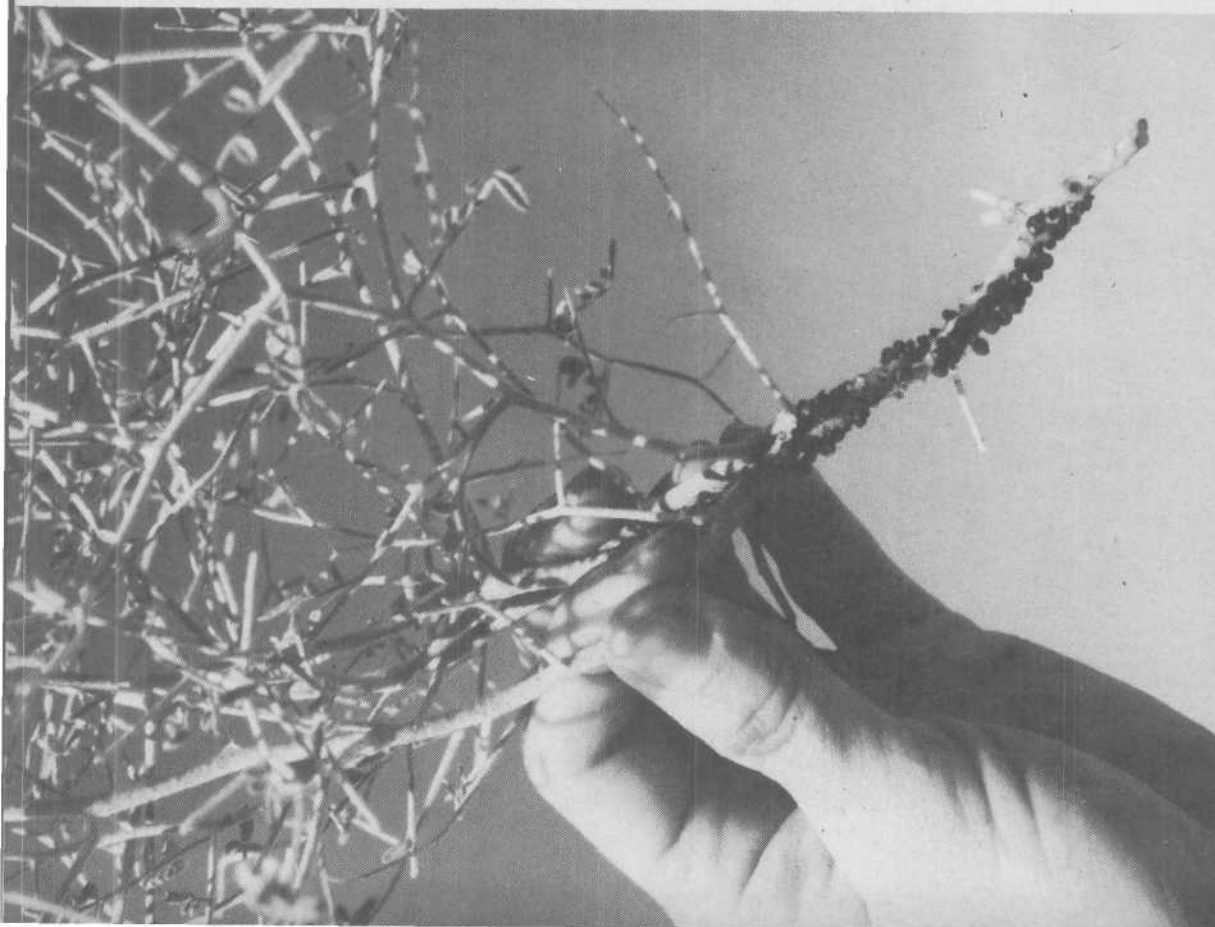
three feet across! *Pilostyles thurberi* is so little-known that it doesn't even have a common name. It was named after George Thurber, botanist of the Mexican Boundary Survey during the 1850s. The only visible part of the entire plants is a tiny reddish flower the size of a pin head that breaks through the stem epidermis of a small shrub called dyeweed. Dyeweed is a common shrub throughout the Colorado Desert of California, but the rare parasite has only been found in a few areas of Imperial County. Recently it was discovered near the Carrizo Badlands of eastern San Diego County.

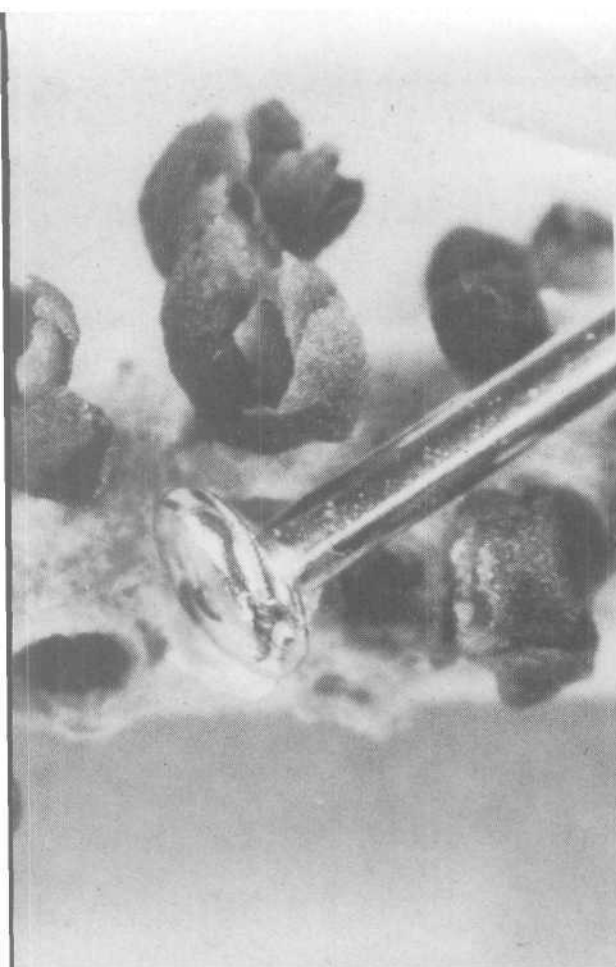
Dyeweed has a very pleasant odor and yields a saffron-yellow dye which was used by Indians in art work. *Pilostyles* has no roots, stems or leaves. The minute flower develops from microscopic filaments of fungus-like tissue deep within the dyeweed stem. Unless you really know what to look for, the clusters of *Pilostyles* buds and flowers resemble a bunch of fat little aphids along the dyeweed branches. Just imagine a small swelling or pimple that opens into a tiny pinkish flower—maybe it could grow on people! It is incredible that one of the smallest plants in the world and the largest flower belong to the same family!

Of all the marvelous plants, the root

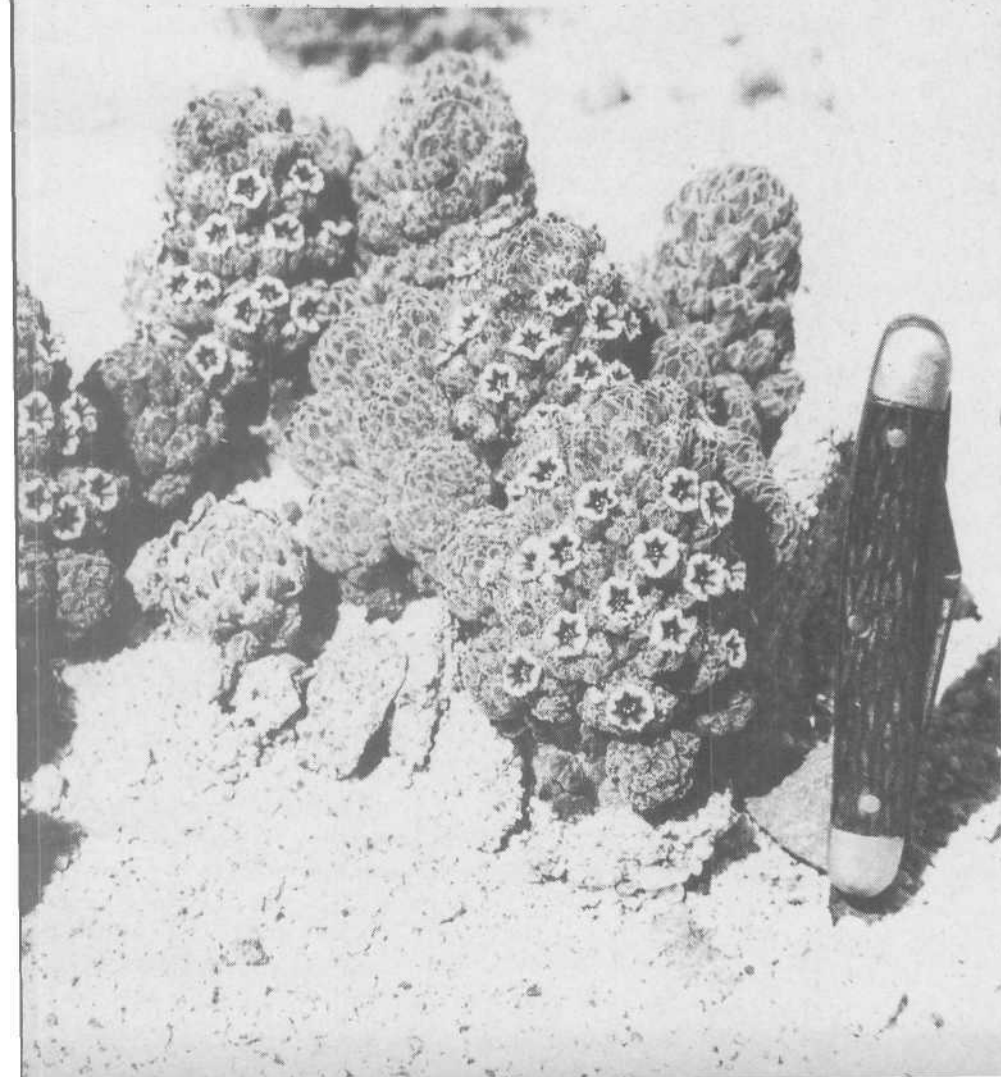
and stem parasites are among the strangest and most interesting. Although they produce flowers like most other plants, they have evolved a parasitic mode of life which may be quite host-specific. Their methods of pollination, seed dispersal and infecting or penetrating the host shrub is a fascinating subject. Some of the root parasites have very limited distributions and because of this are considered quite rare. I have seen several populations of sand food on the dunes west of Yuma completely torn up by duggy tires. I doubt very much that the drivers have any idea of the unique rare plants they are driving over. There is even an incredible case of a movie company that wanted to remove the excess "brush" from the sand dunes near Glamis (Imperial County). The "brush" would apparently ruin the "Saharan" effect of their production. It turns out that the "brush" was the rare desert buckwheat and none other but the rare sand food!

So the next time you pass some sand dunes or an interesting desert wash during spring, get out and explore the area on foot. Who knows, you may be pleasantly surprised to find an unusual root parasite or just a colorful array of wildflowers. □





Left: Section of dyeweed stem showing several Pilostyles buds and flowers. Several craters are also visible where the flowers have broken through the dyeweed stem epidermis and subsequently have fallen off. The head of an ordinary pin shows the incredible minute size of these rare parasitic plants. Bottom left: A branch of dyeweed showing numerous buds of the tiny parasite Pilostyles thurberi along the lower portion. Below: A clump of Pholisma flower stalks pushing up through a sandy wash after a flash flood. The fleshy stems and compact flower clusters superficially resemble a stalked fungus. Each tiny flower is purplish with a white border.



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A ghost comes to life amid buildings and wagons of the past.

MADRID: GROWING

THE BATTERED, greying houses of Madrid tenaciously hug the brush-covered hills of New Mexico's high desert. Life is quiet there in comparison with city living, but the sounds of its children and its history are rich. A rooster gallantly heralds the clear, glad sunrise. Children's laughter stretches across the small valley, and dogs run freely, unfenced and unleashed. There is a spirit of freedom, of rest.

If you ever want to visit Madrid, New Mexico, you must leave all convention and convenience behind. What little plumbing exists barely works. Although a few of the houses in town boast indoor bathtubs, that great American institution—the outhouse—still thrives. The town well pumps out enough water for some of the houses about two days a week. In the face of such rigorous demands which the cold winters and hot, dry summers offer as a hearty challenge to citizens of Madrid, why would the young people who have settled there leave the comforts of our modern civilization for such a

dusty, rundown coal town? Unlike their predecessors who settled the area, there are no mining jobs awaiting them—no company supervisors to make certain that their lives and their community run smoothly.



text by B. LYNNE ZIKA

photos by Michael Nisbet



When the Albuquerque and Cerrillos Coal Company began mining there in 1914, its owner, George Kaseman, and dictatorial superintendent, Oscar Hubar, had widespread plans for a unified, thriving community. And for 38 years Madrid's citizens labored and celebrated with an enthusiastic community spirit.

They had to. The coal company operated and eventually owned the town's general store, hotel, barber shop, beauty parlor, car dealership, tavern, amusement hall, public utilities, hospital, athletic fields, and houses. In the late 1930s, Madrid was once renowned for its gala Christmas celebration, a truly spectacular Festival of Lights. Each evening, from December 15 through January 3, the Holy Family appeared in brilliant illumination against the hills of the town, and each home boasted an outside illuminated Christmas tree. The citizens gathered to sing carols, and on Christmas Day, the coal company gave a present to each child in town.

Madrid was also highly acclaimed across the country for its splendid fireworks display on July 4, and springtime found the local baseball field filled with enthusiastic spectators of Madrid's proficient semi-pro baseball team, "The Madrid Miners."

But in 1952, the mines were shut down and the town's 2,000 inhabitants moved

out. For 23 years the empty, gaping houses were left to the mercy of scorching suns and battering winds.

Now the town is being revived. Previously company-owned stores and houses have been bought by young people looking for a fresh start. On Friday and Saturday nights, some of the best music in the Southwest hails cheerfully from the local tavern, operating in the same location as the original town bar. The homes are being rebuilt, with great care taken to preserve the town's original charm. A museum boasts relics of Madrid's younger days. One of the original structures in town has been converted to a school for the children—a co-operative workshop where everyone pitches in a little time and a little knowhow.

Madrid's citizens hold frequent town meetings to determine policies on architecture, water systems and town baseball games. About once a month, the women gather for a community "sweat," where boiling water is poured over heat-

ed rocks. Originally a sacred ritual performed in sweat lodges by the American Indians for the purpose of healing and purification, this technique originated our modern saunas.

Ingenuity and adaptability are key factors to living in Madrid successfully, not to mention the indispensability of a wood-burning stove and a sturdy pickup truck or van for hauling the winter's wood. Locals have demonstrated remarkable inventiveness in coping with the high desert's demands. One couple, whose refurbished house is not yet on the town's water line, built an outdoor shower. Pipe leads from a large water tank situated beside the house on a small hill, and natural gravity allows the water to trickle down and offer its owners soothing respite from the summer heat. Several residents have built greenhouses, utilizing a wide range of materials on hand, and a myriad collection of greenery creates a cool, fresh room.

Another citizen devised a water heating system utilizing copper coils to con-

duct the heat from the wood-burning stove used for cooking and heating the house.

Many of the people of Madrid have not only found effective ways to surmount their lack of modern equipment, but have also revived many of the crafts and pastimes our ancestors enjoyed. Weaving, pottery, sculpting and quilting are but a few of our country's traditions which flourish here.

At present, Madrid, located 25 miles southwest of Santa Fe on Highway 14, does not offer overnight accommodations for tourists, but magnificent pine forests with soothing hot springs and invigorating icy mountain streams are only two hour's drive. Using Santa Fe as a base point, there are numerous camping facilities within easy access. From Santa Fe, take Hyde Park Road east toward the Santa Fe Ski Basin. There are several campgrounds situated along this road. The Ski Basin is approximately 16 miles northeast of Santa Fe.

The Jemez Mountains, with soft

PAINS AND GHOSTS

*A row of
look-alike
company
homes
stands
forlornly,
weathering
in a ceaseless
cycle.*





Left: Quiet restoration goes on in the more stable structures, while others [below] lean into the wind and a shaky future.

miles to Pecos. Sites begin at this point and continue for approximately 20 miles.

For those who prefer indoor accommodations, quaint Santa Fe and bustling Albuquerque (45 miles southwest of Madrid) offer numerous hotels and inns.

If you're high on courage and a sense of adventure, you might explore some of the abandoned houses in town—they are reputed to be haunted. Be certain to make inquiries with the local residents (you might check the gas station) as to which may be inspected by the public. Quite a few of the houses are privately owned. Though no one has reported any rattling chains, several of the old houses have a definite eeriness.

Surviving in Madrid is not easy. Because of the summer heat and the lack of water, the area presents serious fire hazards, but the town has recently acquired an old fire engine, and many of the adults in town are members of the Volunteer Fire Department. In Madrid, there are many such areas in which a man must be his brother's keeper, for the townspeople must work together to assure a safe, successful community. There is much work yet to be done—continued problems with water shortages and drifters to be overcome. Local residents report thefts of personal property by tourists scavenging the town for "antiques." One citizen had a kettle stolen from his front yard by a "curiosity seeker" passing through!

Though the living is hard, as you walk down the dusty street, you are overcome with the quiet excitement of a new spirit in an old, old town. Craftsmen display their unusual work in an artist's co-op adjoining the museum. Potters and junk collectors hang hand-fashioned wooden signs to invite you in. The people know the goodness of a life and work they love—close to the earth. They share the joy of creating a community, and recapturing the adventure of pioneering in the Old West.

Madrid offers a step back into history, with a renewed spirit and a vigor for life that can bring out the child in each of us. As you sit on a front porch step and look out over the quiet little valley to the rich, glowing sun caressing blue mountain-tops, you may well decide that the city and tomorrow can wait—you've found an incomparable peace—a sense of knowing yourself, and a harmony with the quiet life that surrounds you. □

"English" meadows, offer quiet solitude for a lover's picnic or an afternoon of meditation. Take Highway 285 north from Santa Fe to the town of Pojoaque and turn left on Highway 4. Canoncito Campground is located about 40 miles

from the Highway 4 turnoff; Ponderosa Campground an additional seven.

In the Pecos area, innumerable campsites dot the highway. Take Interstate 25 east from Santa Fe for approximately 24 miles, then left on State Road 63 for six



Continued from Page 11

Examining the same area for that Survey in 1875, Lt. Rogers Birnie reported 154 locations for silver had been made. He listed eight actual mines, and gave the average of their assays as \$919 per ton in silver—which is about twice the average assay of all mines in the famous Panamint boom at the same stage of development. Although the principal ores of the mines were horn silver and stromeyerite, he specially noted the presence of native silver in the Maria. The vein of the Garibaldi, he said, was 50 feet thick in places.

And though the search continued more than a hundred years, no one ever did see those mule-loads of shining silver. Nor ever will. □

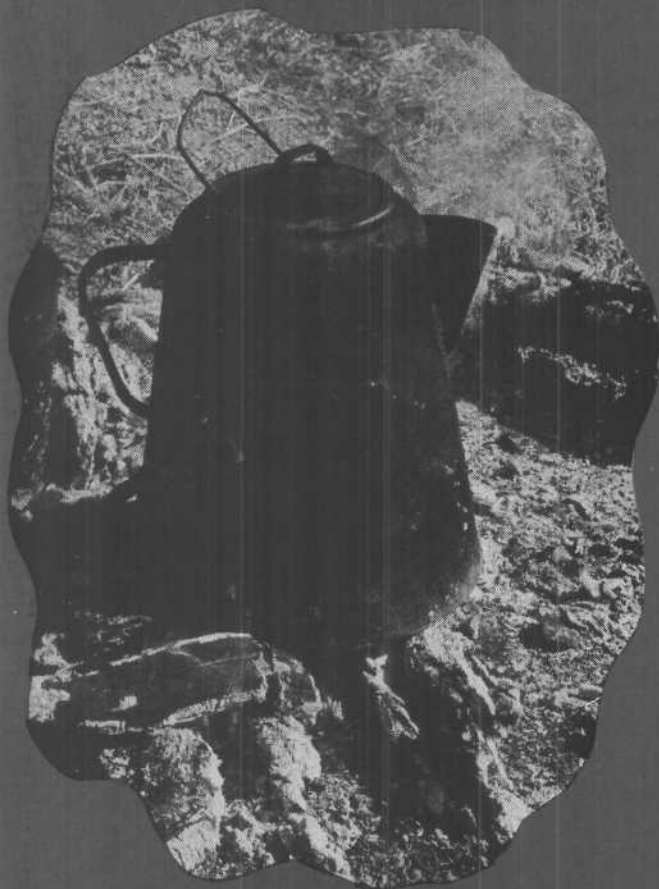
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What's Cooking on the Desert?



by STELLA HUGHES

Frijoles!

HERE'S A legend in Mexico that in order to set up housekeeping, you need a petate to sleep on, a picture of the Virgin de Guadalupe, a string of chili and a bean pot. There's a similar legend in the Southwest that says in order to start ranching, the owner needs a sourdough starter, a jerky line and a bean pot. Some add, "and a long rope."

The Mexican word for beans is *frijoles*. Even when an eastern tenderfoot calls them "fry-joles" a westerner knows what he is talking about. But, any way you say it, just plain beans means only one kind to a southwesterner, and that is the spotted brown and white pinto bean.

The lowly *frijole* is cheap, keeps indefinitely while in the dry stage, is low in fat, high in protein, a fine source of the best carbohydrates, and when cooked improves in flavor each time they are reheated. There have been whole recipe books devoted to bean cookery, and every westerner has his or her own idea how pinto beans should be cooked. Beans and bean cookery are passionate subjects, and arguments short of shooting wars have been waged on the proper method to prepare beans.

All cooks agree, however, that there are some cut-and-dried ground rules not even a teenage bride would dream of breaking. One of them is that altitude has a lot to do with how long it takes beans to cook. At sea level, beans are done in three hours or less, while in the high country of anything over 6,000 feet, it might take most of the day. Especially if the beans are old. Old beans take longer to cook than new beans. Old beans (any past two years old) should be soaked over night. New beans (and this means any harvested the past fall) really don't need to be soaked at all. Or, only for an hour, after first bringing them to a boil.

Beans should be cooked slowly as hard boiling makes them tough. So let them take their time, at an even simmer. Iron pots are not suitable for cooking beans as it turns them dark and they have a metallic taste. Dutch ovens may be wonderful for baking sourdough bread or frying steaks, but are not used for boiling beans. Granite or stainless steel pots serve best.

Wrangler Mack Hughes helps himself to some frijoles in a typical roundup camp.

Another important rule is to never add cold water to boiling beans. When adding water, it should be boiling hot. And, remember salt is added towards the end of cooking time.

Pinto beans do not need a lot of mumbo-jumbo added to make them tasty, but most agree a generous amount of bacon or salt pork, a big juicy onion and salt and pepper are necessary. However, some cooks jazz up their beans by adding cloves of garlic, hot chili powder, tomato sauce, cumin, oregano, brown sugar and vinegar.

This will probably come as a mild shock, but Mexicans and Mexican-Americans seldom cook chili, either red or green, with their beans. Oh, sure, there's always a dish of chile salsa close at hand, or a bottle of hot sauce that can be dashed on frijoles, or a dish of canned green chilies served on the side.

BASIC FRIJOLES (Pinto Beans)

- 2 cups pinto beans
- 6 cups water
- ½ pound of salt pork or six slices bacon cut in pieces
- 1½ teaspoon salt
- 1 onion, diced
- 1 clove garlic, diced
- 1 teaspoon Accent, if desired

Soak beans, either overnight or the fast soak method. Add salt pork or bacon, onion and garlic. Simmer until almost done before adding salt and Accent.

The oldtimers referred to salt pork as "sow belly," or "sow bosom," and I think salt pork is far superior to bacon in making beans larupin'. I'm not alone in this belief.

Now we come to the Mexican favorite, refried beans. Or *refritos*, as they say in Spanish. They are cooked beans fried once, not twice; but, don't argue. They're always called *refried* beans.

Usually, when cooking beans to be used as refried beans, they are cooked with little or no seasoning, and salt and fat added as they are mashed. Then the beans are used for refried beans, or *refritos con caso*. This is made by melting Monterey Jack cheese, cubed, into the mashed beans and cooked very slowly until the cheese has just melted. Sharp Cheddar cheese is also used.



MEXICAN BEANS or *Refritos*

- 1 pound pinto beans
- 2 medium onions, diced very fine
- ½ cup hot bacon drippings or lard
- Salt to taste

Soak beans in 1½ quarts water overnight. Simmer slowly until beans are very tender, three hours or more, depending on altitude. Saute onions in drippings until soft, but not browned. Mash beans with potato masher. Be sure every last bean is reduced to a smooth paste. Add onions, drippings and salt. Mix well. Continue cooking over very low heat, stirring frequently, until beans are thickened.

When cooking for a roundup crew, the bean cooking never stops; while one batch is soaking a second is cooking and a third is being eaten by hungry cowboys. Seldom are any left from one meal to the next for refrying.

RANCH STYLE BEANS

- 2 pounds pinto beans
- 2 onions, chopped
- 2 cloves garlic, chopped
- ½ teaspoon pepper
- ½ teaspoon cumin

- 1 can (4 oz.) diced green chilies
- 1 can (16 oz.) tomatoes
- 1 can (7 oz.) taco sauce or chile salsa
- 1 tablespoon salt

Soak beans in 3 quarts water. Bring beans to boil, adding all ingredients except salt. Cook until tender, adding salt shortly before beans are done.

You often hear the complaint, "I like beans, but they don't like me." There are as many different remedies for taking the "sting" out of the volatile bean as there are ways in cooking the brutes. A teaspoon of soda, added while the beans are cooking, seems to be the popular remedy. Others swear a diced carrot, added to the seasonings, will tame the wildest bean; while I've even heard of a cup of castor oil being successful in removing its claws. (I think I understand how *that* works!) Many cooks swear by another method of first soaking the beans and pouring off the water; then adding fresh water and simmering one hour. Then drain again, add new water and seasonings and cook until done.

Go ahead and try one or all the remedies; if any work, let me know. □

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A FIELD GUIDE TO THE COMMON AND INTERESTING PLANTS OF BAJA CALIFORNIA by Jeanette Coyle and Norman Roberts. Over 250 plants are described with 189 color photos. Includes past and present uses of the plants by aborigines and people in Baja today. Scientific, Spanish and common names are given. Excellent reference and highly recommended. 224 pages, paperback, \$8.50.

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INDIAN JEWELRY MAKING by Oscar T. Branson. This book is intended as a step-by-step how-to-do-it method of making jewelry. An intriguing all-color publication that is an asset to the consumer as well as to the producer of Indian jewelry today because it provides the basic knowledge of how jewelry is made so one can judge if it is well made and basically good design. Paperback, large format, \$7.95.

GRAND CANYON JEEP TRAILS I by Roger Mitchell. Eight interesting trips on the forgotten Shivwits Plateau on the Northwest rim of the Grand Canyon are described. A rating system is included to determine how rough a road is before you try it. Much of the material in this book is original research, never having appeared in print before. Paperback, amply illustrated with maps and photos, \$1.50.

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GOLD AND SILVER IN THE WEST by T. H. Watkins. Over 200 photos, illustrations and maps, many in full color. Complete story of gold and silver mining in the American West, Alaska and British Columbia, including sagas of conquistadores chasing myths in Old Mexico, speculators chasing profits in North American mining camps, instant towns, the evolution from simple placer to major industry, etc. Large format, hardcover, originally published at \$17.50, now priced at \$10.95.

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GHOST TOWN: El Dorado by Lambert Florin. The colorful, outrageous characters of the Western mining towns come to life on every page of this fascinating volume crammed with photos of ghost towns in Colorado, California, Arizona, Utah, etc., plus exciting history and anecdotes. 246 photos and illustrations. Large format, hardcover, originally published at \$12.95, now priced at \$5.95.

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THE WEST

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EDIBLE AND USEFUL PLANTS OF CALIFORNIA by Charlotte Bringle Clarke. This unique book is a guide to identifying more than 220 plants used by both American Indians and pioneers for food, fibers, medicine, tools and other purposes. It also tells how to prepare, cook and otherwise use them. Plants are organized by habitat communities. Descriptions, photos, drawings and distribution information are given. An excellent reference. Hardcover, 280 pages, \$10.95.

HELLDORADOS, GHOSTS AND CAMPS OF THE OLD SOUTHWEST by Norman D. Weis. The author takes you on a 7,000-mile tour of the Old Southwest, visiting some 67 ghost towns and abandoned mining camps, one never before mentioned in written history. 285 excellent photos. Hardcover, 320 pages, \$9.95.

OREGON'S GOLDEN YEARS by Miles F. Potter. Men in search of treasure opened the gates to the wilderness. *Oregon's Golden Years* — with affection and good humor — honors these men and their imperishable lust for gold. Paperback, large format, lavishly illustrated, extensive Bibliography and Index, \$7.95.

THE COLORFUL BUTTERFIELD OVERLAND STAGE by Richard Pourade and Marjorie Reed. With 21 stage coach paintings by Miss Reed, the text concentrates on the Fort Yuma to San Francisco run of the tough Butterfield route. Album format, heavy art paper, \$6.50.

CALIFORNIA-NEVADA GHOST TOWN ATLAS and SOUTHWESTERN GHOST TOWN ATLAS by Robert Neil Johnson. These atlases are excellent do-it-yourself guides to lead you back to scenes and places of the early West. Some photos and many detailed maps with legends and bright, detailed descriptions of what you will see; also mileage and highway designations. Heavy paperback, each contains 48 pages, each \$2.00.

CHUCK WAGON COOKIN' by Stella Hughes. Recipes collected straight from the source—cowboy cooks. Contains Mexican recipes, instructions for deep-pit barbecue and the art of using Dutch ovens for cooking everything from sour-dough biscuits to Son-of-Gun stew. Paperback, 170 pages, \$4.95.



TURQUOISE, The Gem of the Centuries by Oscar T. Branson. The most complete and lavishly illustrated all color book on turquoise. Identifies 43 localities, treated and stabilized material, gives brief history of the gem and details the individual techniques of the Southwest Indian Tribes. Heavy paperback, large format, 68 pages, \$7.95.

LOST MINES & BURIED TREASURES ALONG THE OLD FRONTIER by John D. Mitchell. The second of Mitchell's books on lost mines which was out-of-print for many years. Many of these appeared in *DESERT* Magazine years ago and these issues are no longer available. New readers will want to read these. Contains the original map first published with the book and the one pin-pointing the areas of lost mines. Mitchell's personal research and investigation has gone into the book. Hardcover, 240 pages, \$7.50.

THE ROCKS BEGIN TO SPEAK by LaVan Martineau. The author tells how his interest in rock writing led to years of study and how he has learned that many — especially the complex petroglyphs — are historical accounts of actual events. Hardcover, well illustrated, glossary, bibliography, 210 pages, \$10.95.

EXPLORING DEATH VALLEY, Third Edition, by Ruth Kirk. A completely revised and up-to-date comprehensive guide to the wonders of Death Valley National Monument. Details on where to go by car, by jeep and on foot, what times of day are best, possible side trips. Illustrated with maps and photos, 96 pages, paperback, \$3.45.

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MINING CAMPS AND GHOST TOWNS, A History of Mining in Arizona by Frank Love. Dramatic history of the mineral frontier as it affected one section of the vast American West, the Lower Colorado Region. Illustrated, hardcover, 192 pages, \$7.95.

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BROKEN STONES, The Case For Early Man In California by Herbert L. Minshall. "The Broken Stones" peels back some of the story of man in America, back beyond the longest racial memory. Author Minshall pulls together all that has been learned or suggested by amateurs as well as experts, including his own discoveries. To them the broken stones are beginning to speak — and they speak of the presence of man on the American Continent many thousands of years before he shaped the first bow and arrow. Large format, beautifully illustrated, hardcover, \$16.50.

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ISHI IN TWO WORLDS by Theodora Kroeber. Ishi was perhaps the most remarkable personality of this century. A Yahi Indian, and lone survivor of a doomed tribe, he was found in the corral of a slaughter house near Oroville, Calif. For the rest of his life, Ishi lived under the care and protection of the staff of the University of California's Museum of Anthropology. An incredibly sad but beautifully told story. Hardcover, many excellent photos, both color and black and white, 262 pages, \$14.95.

LOST LEGENDS OF THE SILVER STATE by Gerald B. Higgs. The author provides interesting reading on 16 legends about the golden age of Nevada. Illustrated with rare old photos. Hardcover, 147 pages, \$7.95.

RAILROADS OF ARIZONA VOL. I by David F. Myrick. More than 30 railroads of Southern Arizona are presented, together with 542 nostalgic illustrations, 55 special maps and an Index. A valuable travel guide and a reliable historical reference. Large format, hardcover, 477 pages, \$19.50.

Letters to the Editor

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Jerky for the Dogs . . .

First, let me say I enjoy your magazine very much. I have been a subscriber for some years.

Your article on Charqui (Jerky) in the May issue brought to mind something that happened at our place some 60-65 years ago.

We had a mule for packing salt, barb wire, bed rolls, etc. Well, one day he died and my dad and uncle jerked the hindquarters for the dogs. It was strung out along the barb wire fence near the horse trough. A few days later, a couple of cowboys from another outfit rode in to get a drink and water their horses. You guessed it, they spied the jerky and shoved some in their chap pockets. They were already eating it when my mother hollered and told them what it was.

Talk about up-chucking, they sure did. It was quite a joke around for some time—those cowboys were really mad.

Being a small kid at the time, I couldn't see the funny side so clear, but the folks and all really enjoyed it.

C. T. GARRETT,
Onyx, California.

Interesting Images . . .

The clay female figures shown in Merle Graffam's "Death Desert Images" (*Desert*, June 1978) are identical to prehistoric goddess images found in Europe, Greece and other areas of the Mediterranean. The similarity is astonishing. (See illustrations in "The Great Mother" by Erich Neumann, Princeton University Press, 1963.)

These figurines—some of which are more than 4,000 years old—represent the great Earth and Moon Goddesses who appear to have been worshiped in all early cultures. They are precursors of the great Babylonian Ishtar, Egyptian Isis, Greek Demeter and Artemis, and Roman Ceres and Diana.

It is intriguing to consider that the same kinds of images were made, and perhaps a similar form of goddess worship was practiced by prehistoric people in our own Southwest.

I would like to see more articles on this subject.

MIMETTE EHRENFREUND,
La Jolla, California.

Calendar of Events

This column is a public service and there is no charge for listing your event or meeting—so take advantage of the space by sending in your announcement. We must receive the information at least three months prior to the event.

SEPTEMBER 16 & 17, Mother Lode Mineralites' Gem & Mineral Show, Gold Country Fairgrounds, Auburn, California. Free admission, parking, camping, field trip.

SEPTEMBER 23 & 24, Centinela Valley Gem and Mineral Club's "Harvest of Gems" show, Hawthorne Memorial Center, El Segundo Blvd., and Prairie Ave., Hawthorne, Calif. Dealers, displays, demonstrations, prizes. Ample free parking.

SEPTEMBER 23 & 24, 38th Annual Show of the Los Angeles Lapidary Society, "March of Gems" at the Brentwood Youth House, 731 South Bundy, south of San Vicente. Dealer space filled.

SEPTEMBER 23 & 24, Carmel Valley Gem & Mineral Society, Monterey Co. Fairgrounds, Monterey, Calif. "19th Jubilee of Jewels." Dealer space filled.

SEPTEMBER 23 & 24, 10th Annual Bottle Show and Sale presented by San Bernardino County Historical Bottle and Collectible Club. San Bernardino Convention Center, 303 North "E" Street. Adult donation, 50c. Information: 714-884-6596.

SEPTEMBER 23 & 24, 12th annual "Magic in Rocks" show sponsored by the El Monte Gem & Mineral Club, Inc., Masonic Lodge, 4017 N. Tyler Ave., El Monte, Calif. Dealers, displays, demonstrations. Free admission and parking. Dealer space filled.

Inflation on the Reservation . . .

I enjoy the *Desert Magazine* very much. My grandson shares his copy with me.

I liked the article about Taos, New Mexico, in the June issue, but I believe your information is a bit outdated. You state that the Taos Pueblo is open to visitors, and there is a visitors fee of \$1.50 which includes a pictures taking permit.

I was there the 26th of May, 1978 and I was with a tour group, so I do not know what the entrance fee was, but I do know that I had to pay \$5.00 for a permit to use a super 8 movie camera and other members of our group paid \$2.00 for a permit for a still camera. We were also instructed not to take a close-up of any Indian without getting his permission and also paying for the privilege. The last part I agree with but I do think the permit is out of reason.

FRANCES EDWARDS,
Moreno, California.

SEPTEMBER 30, "Recreation in Rocks," sponsored by the Peninsula Gem and Geology Society, San Antonio Shopping Center, 2550 El Camino West, Mountain View, California. No dealers. Club sales of cutting material, jewelry and novelties. Geode cutting.

SEPTEMBER 30-OCTOBER 1, "Nature's Jewel Box," sponsored by the Napa Valley Rock & Gem Club, Inc., Napa Town and Country Fairgrounds, 575 Third St., Napa, Calif. Dealers, demonstrations, drawings. Donation 50c. Easy parking and camping facilities on the grounds.

OCTOBER 3-15, The Fresno Gem and Mineral Society, Inc., presents their 25th Annual Show at the Fresno Dist. Fair, Industrial Arts Building at the Fairgrounds located at East Kings Canyon Road and Chance Ave., Fresno, Calif. Admission to Fair covers admission to show.

OCTOBER 7 & 8, Searles Lake Gem and Mineral Society's 37th annual Gem-O-Rama, Recreation Hall, Trona, Calif. Camping, field trips, dealer space filled.

OCTOBER 7 & 8, "Back Country Arts Festival" sponsored by the Community United Methodist Church of Julian, California. Show to be held at the church. Admission free.

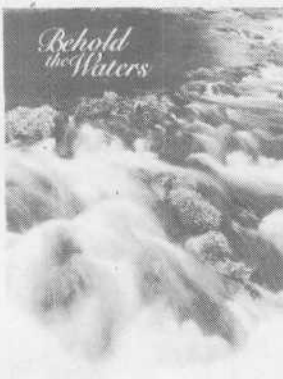
OCTOBER 7 & 8, Bisbee Mineral Show of 1978, National Guard Armory, south of Bisbee, Arizona near the junction of Naco Highway and Highway 92. Exceptional displays, special programs. Admission \$1.00, children with adults free.

OCTOBER 7 & 8, Mohave County Gemstones 8th Annual Gem and Mineral Show. Mohave County Fairgrounds, Kingman, Ariz. Dealers. Chairman: John Sourek, Kingman, Arizona 86402.

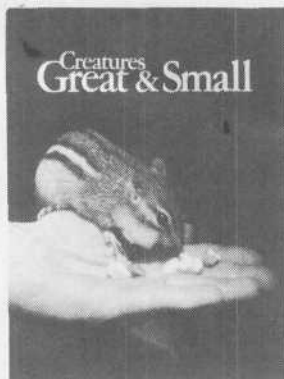
OCTOBER 13-15, Tucson Lapidary & Gem Show sponsored by the Old Pueblo Lapidary Club, Tucson Community Center Exhibition Hall, 350 South Church St., Tucson, Arizona. Exhibits, dealers, demonstrations. Admission \$1.00 - children under 12 free with adult.

OCTOBER 14 & 15, Annual Show "Rock Trails West" sponsored by the Campbell Gem and Mineral Guild, Santa Clara County Fairgrounds, San Jose, California. Dealers. Chairman, Ralph Quain, Box 552, Los Gatos, California 95030.

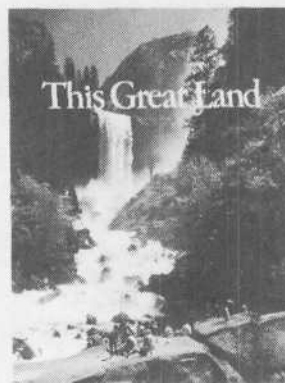
OCTOBER 14-22, 3rd Annual Gem and Mineral and Handcraft Hobby Show, Sportsman's Club of Joshua Tree, 6225 Sunburst, Joshua Tree, California. For information, write P. O. Box 153, Joshua Tree, Calif. 92252.



Behold the Waters



Creatures Great & Small

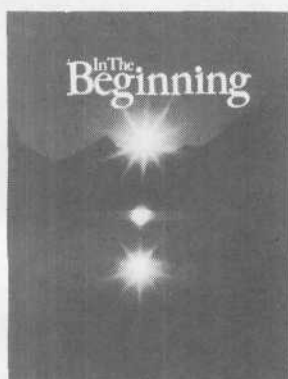


This Great Land

His Living Creation



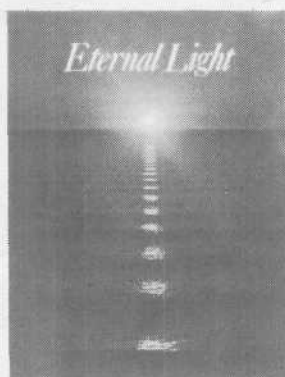
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In the Beginning



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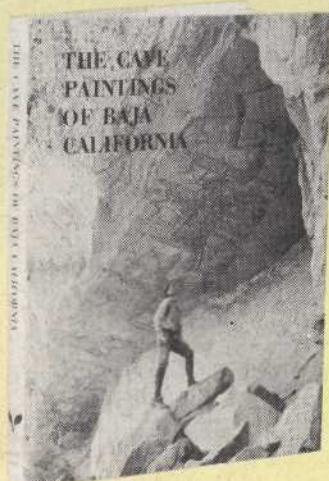
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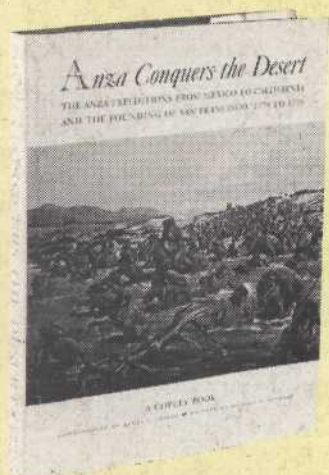
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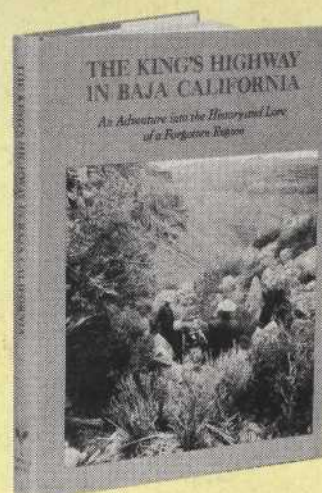
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